



Petrochemical Industries Development
Management Company



Development projects in the field of Oil, Gas and
Petrochemical industries

*Risks and constraints leverage your
competitiveness by our experience.*

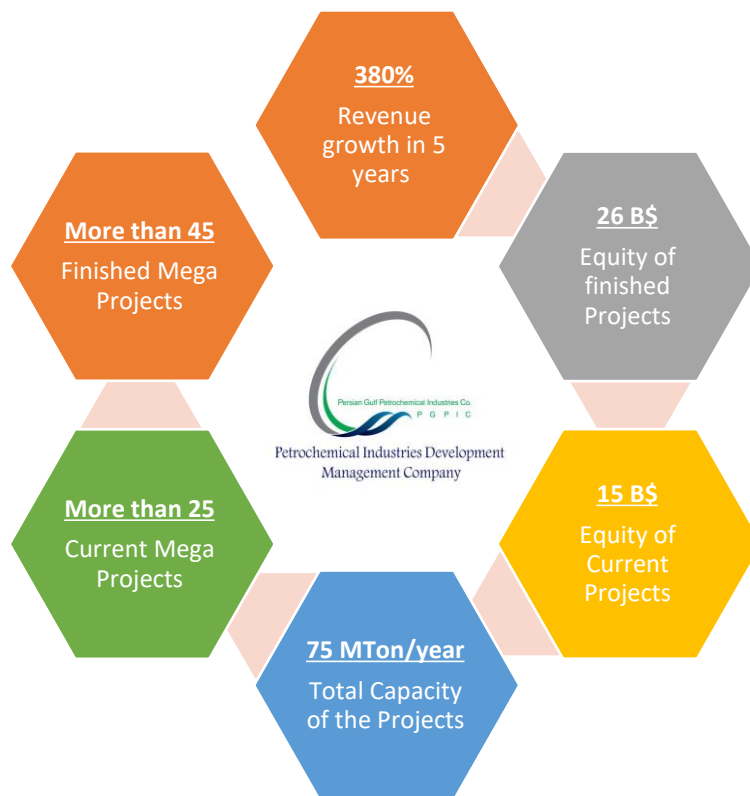
Table of Contents

Introduction	2
Our capabilities	2
Our Vision.....	3
Our Mission.....	3
Our Corporate Values	3
Our Services & Our Field of activity	4
Current Experiences (Inspirational projects of the last 10 years).....	5
1. Persian Gulf Bid-Boland gas refinery	5
2. Execution and refurbishment of flare gas recovery system	7
3. Ilam Petrochemical Complex (Olefin, SRU and Hydrogen units)	9
4. Persian Gulf Apadana Methanol plant.....	11
5. Olefin unit of Dehloran petrochemical Company	13
6. Heavy End Hydro treating unit of Noori petrochemical Company	15
7. HDPE unit of Gachsaran polymer industries company	17
8. NGL 3100 EPCC Project Dehloran Petro-refinery Company	18
9. HDPE unit and utilities of Dehdasht petrochemical company.....	19
10. Olefin unit of Gachsaran Petrochemical Company.....	21
11. HYCO unit of Karoun Petrochemical Company.....	23
12. Andimeshk Ethylene oxide plant	24
13. Refurbishment and renovation of unit No. 800 and TK-2001C Reservoir of Bu-Ali Sina.....	25
14. Light Naphtha sweetening unit of Bu-Ali Sina Petrochemical Company	26
15. Polypropylene unit of Ilam Arghavan-Gostar Petrochemical Company	27
16. GRP pipelines replacement with carbon steel pipes in Persian Gulf Mobin Energy Company ..	29
17. Olefin unit of Hormuz Persian Gulf Petrochemical Company.....	30
18. Ammonia and urea unit of Hengam Petrochemical Company	32
19. Third natural gas fractionation unit of Bandar-e-Imam.....	Error! Bookmark not defined.
20. Ammonia and urea unit of Marvdasht martyrs Petrochemical Company....	Error! Bookmark not defined.
21. Iran west ethylene pipeline from Asaluyeh to Tabriz (2,740 Km)	34
Our References (Before privatization)	35
facility and infrastructure projects	37
procurement support and warehouse management	37
Our Achievements	38

1. Introduction

Petrochemical Industries Development Management Company (PIDMCO) was established in February 1995 to manage petrochemical plants implementation around the country by conducting engineering, procurement, construction and commissioning process and managing infrastructural facilities. The company's share has been assigned to the **Persian Gulf Petrochemical Industries group (PGPIC)** since 2013 according to government privatization policies.

2. Our capabilities



3. Our Vision

Knowledge-based company in all fields of oil, gas and petrochemical projects among the top ten general contractors ranked by Iranian Management Institute up to 2025

4. Our Mission

Due to our experience in infrastructure and petrochemical projects and relying on our human capital knowledge and expertise, we realize our client's objectives with priority on **development** and **rehabilitation** of **petrochemical plants** by acting as **General contractor, Manager of contract, consultant** and **Supplier, globally, in the region** and in **Iran**.

5. Our Corporate Values

- **Creativity and Innovation**
- **Value creation**
- **Sustainable Development**

6. Our Services

Our Field of activity

<ul style="list-style-type: none"> • Project Initiation Support • Managing of Contract • General Contracting (EPC) • Procurement Services • Contract Management 	<ul style="list-style-type: none"> ▪ Petrochemical plants ▪ Oil, gas, petrochemicals and Sea Water transmission line ▪ Oil, Gas and Petrochemicals reservoirs ▪ Building and infrastructure of petrochemical complexes ▪
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Our Services	Project initiation support/Project development	Technical feasibility study Cost estimation Land acquisition Technology license study Local & international License and permissions Facility preparation Feed supply study
	Managing of Contract	Project planning Preparing of bid documents and Tendering Engineering management Procurement management Construction management and supervision Commissioning management and supervision Project delivery and transformation to the operator Closing of contracts and claim management Project finance management
	EPC as general contractor	Site preparation Engineering Procurement Construction Commissioning Trial and guarantee period operation
	Procurement services	Specification review Supplier evaluation Providing vendor list based on project parameters Tendering Expediting Logistic management
	Contract management	Preparing contract draft based on the project parameters Managing of contract guarantees and amendments Claim management Managing of contract closing process
	Facility & Infrastructural Project (EPC/MC)	Non-Industrial Building, Residential building, Roads railways, airports, Residential complexes, Bridge and tunnel, Transmission lines, water treatment and berths

7. Current Experiences (Inspirational projects of the last 10 years)

7.1. Persian Gulf Bid-Boland gas refinery

Project name	Persian Gulf Bid Boland Gas Treating Project
PIDMCO Rule	Managing of Contract (MC)
Client	Persian Gulf Bid Boland Gas Treating Company
Licensor	RIPI, Haldor Topsoe, Prosernat
Location	Khuzestan- 15 Km to Behbahan
Starting of the project	2005
Starting of the Contract	2015
Project budget	3.5 Billion Euro
Feed (MMSCFD*)	Sour Gas: 1,700 Sweet Gas: 300
Products (KTPY**)	Methane: 8,700 Ethan: 1,500 Propane: 1,005 Bhutan: 4,900 Condensate: 400 Acidic Gas: 922

*Million Cubic Standard Feet per Day

** Kilo Tons per Year

Project Scope:

- Process units
- Utilities units, offsite and Non-industrial buildings
- Feed stock Transmission pipelines from NGLs 900, 1000, 1200 and 1300 to the Refinery
- Propane, Butane and Pentane-Plus transmission pipelines to Mahshahr storage facilities, Ethane to Gachsaran Petrochemical Plant, Gas transmission pipeline to IGAT I & VI and diluted Acid Gas Pipeline to Aghajari compressor station injection plant as products

Project Volumes:

Item	Scale	Value
Excavation and embankment	M ³	15,744,956
Concreting	M ³	371,732
Steel structure	Tons	19,668
Fixed Equipment erection	Tons	28,234
Rotating Equipment erection	Tons	6,891
Pipe lines	M	808,000
Pipe welding	Diameter-Inch	3,163,052
Reservoir volume	M ³	198,357

We participated in the honors.

- Reduction of Environmental Pollution by refining more than 600 Million Cubic Feet of Flare Gas per day
- Prevention of Acidic Gas burning by reprocessing and injection to the fields
- Supply of the feed for more than 6 major petrochemical plants and providing natural gas to National Gas Network as one of the major energy arteries in Iran

Our records

- 63 million man-hours accident-free work leading to death in the history of Iran's oil industry
- Managing of 97 active frontlines throughout 3 vast provinces
- Welding of 6000 Diameter-Inches pipeline in a day
- Installation of 1,221 tons of steel structure and fixed and rotating equipment in a day
- Winning first prize in the Project Management National Award in 2020
- Achieving 3th world's top energy project prize from International Project Management Award in 2020

Our added value

- Reactivation of the project after 4 years of delay with 18% progress
- National economy reinforcement and cost saving by domestic supply management for more than 65% of design, procurement and manufacturing, execution and commissioning activities
- More than 10,000 people direct and indirect employment beside employing more than 70% execution HR from regional workforces
- Integrated and interface management of 13 major EPC contractors
- Effective defense and Claim management for the amount of 28.5 M€ and 1,888 B IRR
- Providing 5,027 B IRR Cost saving by piping material optimization and near 200 M\$ saving by electricity supply compatibility with the national electricity grid

7.2. Execution and refurbishment of flare gas recovery system

Project name	Supplying feed from flare gas
PIDMCO Rule	Managing of Contract (MC)
Client	Persian Gulf Bid-Boland gas refinery Company
Location	Khuzestan, Kohgiluyeh and Boyerahmad, Bushehr, Fars provinces
Starting of the project	2018
Starting of the Contract	2019
Project budget	1,109 M\$
Feed (MMSCFD*)	Flare gas: 2 MMSCFD from 20 regions
Products	Dehumidified and compressed gas

*Million Cubic standard feet per Day

Project Scope: Modification and improvement of existed equipment, Piping, Gas injection, pre-compression and booster stations, electricity transmission network

Project Volumes:

Item	Scale	Value
Pipe lines (6"-20")	Km	338.7
Gas injection (2 stations)	MMSCFD	622.5
Pre-compression (3 stations)	MMSCFD	2,390
Pressure booster (12 stations)	MMSCFD	700
Substation (400Kv to 11Kv)	No.	9
Electricity transmission line	Km	185

We participated in the honors.

- Using Bid-Boland refinery free capacity for prevention of flare gas burning and design modification and increasing the refinery capacity by 401 MMSCFD
- Revenue growth by 600 M\$ for the refinery as project stakeholder
- Reducing 33 million tons of greenhouse gases equivalent to 87% of the country's obligation in Paris Climate Accord
- Direct employment of 9000 people during construction and 500 people in the operation phase
- Reduction of Environmental Pollution by refining more than 2 Million Cubic Feet of Flare Gas per day
- Prevention of Acidic Gas burning by reprocessing and injection to the fields
- More than **65%** domestic procurement in project charter to reinforce national economy and cost saving
- More than 10,000 people direct and indirect employment beside employing more than 70% execution HR from regional workforces

Our added value

- National economy reinforcement and cost saving by domestic supply management for more than 65% of design, procurement and manufacturing, execution and commissioning activities

- Employing more than 70% execution HR from regional workforces
- Integrated and interface management of 40 major EPC contractors
- Implementation of Earned Schedule Management (ESM) and Earned Value Management (EVM) system for 1,000,000,000\$ cost management
- Project continuity and integrated management all over 4 vast provinces with 225,000 Km² area

7.3. Ilam Petrochemical Complex (Olefin, SRU and Hydrogen units)

Project name	Ilam Olefin, SRU and Hydrogen units
PIDMCO Rule	Managing of Contract (MC)
Client	Ilam Petrochemical Company
Licensors	Olefin unit: UK Stone & Webster SRU unit: Axens- France
Location	Ilam, 18 km northwest of Ilam
Starting of the project	2003
Starting of the Contract	2016
Project budget	853 M€ + 16,508 B IRR
Feed (KTPY*)	Olefin unit: Ethane: 232.8 C3+: 327.8 C5+: 391.2 Butane-1: 3.7 SRU unit: Sulfur C5+ & C3+ Hydrogen unit: Natural Gas
Products (KTPY*)	Olefin unit: Ethylene (polymer grade): 459 Propylene: (chemical grade): 107 Propylene (Polymer grade): 18 HDPE: 300 Pyrolysis gasoline: 134 Liquid fuel: 33 Fuel gas (byproduct): 201 Hydrogen: 0.533 SRU unit: Desulfurized C5+: 453 Desulfurized C3+: 470 Hydrogen unit: Hydrogen (99.99%): 1,630 NM ³ pH

* Kilo Tons per Year

Project Scope: Olefin unit including cracking furnaces, gas compression, ethylene recovery and demethanizing systems, fractionation units, cooling systems and product storage tanks in addition to Sulfur removal unit (SRU) and Hydrogen production unit

Project Volumes:

Item	Scale	Value
Excavation and embankment	M ³	495,000
Concreting	M ³	100,000
Steel structure	Tons	19,000
Equipment erection	Tons	54,000
Piping	Diameter-Inch	1,550,000

Feed pipeline	Km	17
Repaired feed pipeline	Km	132
Electrical and I&C cabling	Km	21,000

Our added value

- Winning first prize in Project Management National Award in 2019 for SRU unit
- Contribution in the project Reactivating after 13 years of suspension by removing design obstacles, EPC scope of work renovation, technical adjustment and contractual and structural re-organizing
- Managing of 15,000,000 man-hour accident-free work
- Resolving of detail engineering and procurement constraints due to licensor absence by utilizing domestic capacities
- Conducting significant share of procurement from domestic sources such as most of fixed and rotating equipment, I&C and electricity equipment, flare stack, exchanger, drum and all of the steel structures, Painting and insulation in order to save the project cost and resolving procurement barriers
- resolving of Critical design obstacles such as gathering and centralizing of all Ilam complex flare gases, olefin tower design and anti-surge valves
- Implementation of OPERCOM methodology by Indigenizing ICAPS
- Construction cost saving (350 B IRR) by employing domestic contractors, conducting local steel structure workshop and heavy-duty cranes, and I&C equipment relocation
- Optimization of LV/HV Switchgears and saving 30,400,000 € project cost
- Project continuity and integrated management all over 4 subprojects (Olefin, SRU and Hydrogen units and feeding pipelines overhaul) by 24 major contractors
- 900 B IRR Claim successful defense

7.4. Persian Gulf Apadana Methanol plant

Project name	Persian Gulf Apadana Methanol plant
PIDMCO Rule	Managing of Contract (MC)
Client	Persian Gulf Apadana Petrochemical Company
Licensor	Switzerland Casale Corporation
Project budget	252 M€
	45,000 B IRR
Location	Asaluyeh- Pars petrochemical special economic zone-phase 2
Starting of the project	2012
Starting of the Contract	2014
Feed (KCMD*)	Natural gas: 4,500
Products (KTPY**)	Methanol A++: 1,650

* Kilo Normal Cubic Meter per Day

** Kilo Tons per Year

Project Scope: Synthesis gas production, Reforming Synthesis gas to Methanol, Distillation process, Methanol separation and Steam production by surplus heat

Project Volumes

Item	Scale	Value
Excavation and embankment	M ³	301,000
Concreting	M ³	64,136
Steel structure	Tons	7,700
Fixed Equipment erection	Tons	17,434
Rotating Equipment erection	Tons	2,017
Underground piping	Diameter-Inch	52,267
On the ground piping	Diameter-Inch	320,828
Reservoir volume	M ³	1,472

Our added value

- Design optimization of oxygen pipeline based on experienced lesson learned
- New Polisher design to blow down water recycling
- Managing of constraints due to licensor absence and Indigenizing the technology including:
 - Reformer package engineering and more than 1,300 tons reformer's steel works Modeling and manufacturing in Iran
 - Manufacturing management of more than 13,000 tons of main equipment in Iran
 - Leading and managing of indigenization process for Synthesis Reactor equipment, Synthesis Gas Compressor, Air separation unit and cooling tower in Iran

- Procurement management of all project towers from local suppliers and integrated transportation of 600 tons T-1001 tower
- Managing of 5,579,700 man-hour accident-free work
- managing of 157 contracts with the amount of 356 M€ and closing of 108 contracts without claim
- Cost saving by the amount of 100 M€ by domestic procurement promoting and support
- 100 M€ cost saving by managing civil and execution contracts currencies
- Contribution in the project Reactivating after 2 years of suspension

7.5. Olefin unit of Dehloran petrochemical Company

Project name	Olefin unit of Dehloran petrochemical Company
PIDMCO Rule	Managing of Contract (MC)
Client	Dehloran petrochemical Company
Licensor	Indigenizing of Linde technology
Project budget	707 M€
Location	Ilam province-22Km to Dehloran
Starting of the project	2019
Starting of the Contract	2020
Feed	C2+
Products (KtpY*)	Ethylene: 620 Propylene: 140 Pyrolyze gasoline: 43 Heavy oil: 6

* Kilo Tons per Year

Project Scope:

- Feedstock separation to C3+ and C2-
- Steam cracking furnaces
- Quench water system
- Gas compression system
- Cooling, drying and hydrogenation
- Reservoirs and transmission
- Utilities and off-site

Project Volumes

Item	Scale	Value
Excavation and embankment	M ³	596,053
Concreting	M ³	13,046
Steel structure	Tons	1,043
Equipment erection	Tons	1,397
Piping (UG)	Diameter-Inch	10,930
Reservoir volume	M ³	46,760

Attention: Values are estimated before detail Engineering.

Our added value

- Planning for more than 50% domestic procurement to reinforce national economy
- Contribution in project finance process by National Development Fund
- Conducting tension analytic calculation for non-metal pipelines by local engineering company

- Gathering lesson learned about operational defects of previous olefin project and conducting design optimization such as furnaces design
- Managing of 4,122,590 man-hour accident-free work
- Reduction of the project cost by project value engineering and saving 800 M€ compared with feasibility study
- Contribution in the project activating after 1 year

7.6. Heavy End Hydro treating unit of Nouri petrochemical Company

Project name	Heavy End Hydro treating unit of Nouri petrochemical Company
PIDMCO Rule	Managing of Contract (MC)
Client	Nouri petrochemical Company
Licensor	Axens-France
Project budget	42.8 M€ + 2,548 B IRR
Location	Asaluyeh- Pars petrochemical economic zone-Nouri petrochemical plant
Starting of the project	2020
Starting of the Contract	2020
Current phase	Engineering
Feed (KTPY*)	PYGas:20.83 Heavy end: 2000
Products (KTPY*)	Hydrogenated heavy end: 1,842 Stabilized Naphtha: 171.3

* Kilo Tons per Year

Project Volumes

Item	Scale	Value
Excavation and embankment	M ³	54,000
Concreting	M ³	15,000
Steel structure	Tons	800
Fixed Equipment erection	Tons	2,800
Rotating Equipment erection	Tons	305
Pipe welding	Diameter-Inch	100,000
Electricity and I&C Cabling	Km	305

Our added value

- Planning for more than 85% domestic procurement in project charter to reinforce national economy and cost saving
- Review, optimization and adjustment of plant design including:
 - Considering a filter in downstream of Reactor guard pot catalyst for removing of dust to protect main catalyst in next section from deposit of any particle on it during putting in service stand by reactor guard pot.
 - Changing type of furnace from force draft to natural draft due to space limitation, the amount of available fuel and design issues.
 - Adding DMW line for preparation of Soda Ash solution and washing after neutralization
 - Modifying composition of sump drums service and consequently using NACE requirement in material selection, design and manufacturing of the drums

- Modification of PSV sizing calculation for reactor in fire case that has led to increasing height of relevant structure.
- Changing of pressure control method for fine catalyst removal line from PCV to PIC for prevention of PSV activation during reactor guard pot startup
- Sour flare line modification and adding condensate drum for collecting probable liquid
- Layout optimization for equipment and buildings such as Feed tank and substation
- Design modification to Increase plant's safety level such as modification on architecture of tower pedestal, using concrete pipe rack instead of steel and relocating of feed tank

7.7. HDPE unit of Gachsaran polymer industries company

Project name	HDPE unit of Gachsaran polymer industries company
PIDMCO Rule	Managing of Contract (MC)
Client	Gachsaran polymer industries company
Licensor	LyondellBasell-Germany
Project budget	180 M€
Location	Gachsaran
Starting of the project	2020
Starting of the Contract	2020
Current phase	Engineering
Feed	Ethylene
Products (KTPY*)	HDPE grades: 300

* Kilo Tons per Year

Project Volumes

Item	Scale	Value
Excavation and embankment	M3	300,000
Concreting	M3	30,000
Steel structure	Tons	2,500
Fixed Equipment erection	Tons	3,000
Rotating Equipment erection	Tons	1,000
Pipe welding	Diameter-Inch	300,000
Electricity and I&C Cabling	Km	500

Our added value

- Planning for more than 65% domestic procurement in project charter to reinforce national economy and cost saving
- Managing of 250,000 man-hour accident-free work
- Engineering optimization leading to cost saving, execution accelerating and space efficiency such as:
 - Adjustment of new flare network with the olefin plants
 - Optimization of pipeline design
 - Plot plan optimization
 - Optimization of product warehouse design
 - Optimization of project control system to reduce PLC usage
- Indigenizing of Polishing technology for the first time in Iran
- Reverse engineering for some of the equipment like agitators to manage constraints
- Assigning of local contractor for high-tech reactor manufacturing to save project cost and reinforce local capability

7.8. NGL 3100 EPCC Project Dehloran Petro-refinery Company

Project name	NGL 3100 EPCC Project Dehloran Petro-refinery Company
PIDMCO Rule	Managing of Contract (MC)
Client	Dehloran Petro-refinery Company
Project budget	676 M\$
Location	Ilam province - Mousian
Starting of the project	2016
Starting of the Contract	2020
Feed (MMSCFD*)	APG: 240
Products	Sweet gas: 77 MMSCFD ¹ Sulfur: 400 Tpd ² Condensate gas: 850 Bpd ³ C ²⁺ : 40,000 Bpd ³

⁽¹⁾ Million standard cubic feet per day

⁽²⁾ Tons per Day

⁽³⁾ Barrels per day

Project Volumes

Item	Scale	Value
Excavation and embankment	M ³	500,000
Concreting	M ³	81,464
Steel structure	Tons	7,276
Fixed & Rotating Equipment erection	Tons	7,700
Pipe welding	Diameter-Inch	314,000
Electricity and I&C Cabling	Km	1,574
Excavation and embankment	M ³	500,000

Project Scope: Liquid natural gas plant, 9 feed and product transmission lines, 7 valve stations, main electricity substation and transmission line

Our added value

- Planning for more than **58%** domestic procurement in project charter to reinforce national economy and cost saving
- Investigating of divided task between the client and feed supplier and preventing **34 M€** loss in the feed transmission line in a favor of the client
- Technical and financial investigation of design change to eliminate returned sour gas pipeline lead to **169 M\$** loss prevention
- Agile procurement management to mitigate foreign supply constraints and commitment to quality assurance by modification of inspection procedures for local sources
- Integration and interface management of 5 engineering companies, 111 suppliers and 8 construction contractors
- Managing of 726,860 man-hour accident-free work

7.9. HDPE unit and utilities of Dehdasht petrochemical company

Project name	HDPE unite and utilities of Dehdasht petrochemical company
PIDMCO Rule	Managing of Contract (MC)
Licensor	LyondellBasell
Client	Dehdasht petrochemical industries company
Location	Kohgiloyeh and Boyerahmad - Dehdasht
Starting of the project	2006
Starting of the Contract	2016
Project budget	140.6 M€ + 18,458 B IRR
Feed (KTPY*)	Ethylene: 305 Buten-1: 8 Hydrogen: 0.2
Products (KTPY*)	HDPE: 300 (23 grades)

* Kilo Tons per Year

Project Scope: Producing 300 KTPY High Density Polyethylene including 23 deferent Grades.

Project Volumes:

Item	Scale	Value
Excavation and embankment	M ³	2,100,000
Concreting	M ³	72,000
Steel structure	Tons	6,800
Equipment erection	Tons	7,000
Pipe welding	Diameter-Inch	350,000
Electricity and I&C Cabling	Km	2,000

Our added value

- 100% domestic procurement of utility's basic and detail engineering and process basic design in order to technology indigenization
- Planning for 100% domestic procurement of civil and erection activities and 50% of equipment supply to reinforce national economy and cost saving
- Indigenization of LyondellBasell's updated technology by triple reactors and multi catalyst usability in order to meet domestic and export demands with different grades
- Manufacturing indigenization of critical equipment such as reactors, refrigeration package and packing system
- Proactive cooperation in preparing and finalizing of early work contracts, assignment agreement and amendments between client, partners and LC's beneficiary to reactivate the project after 10 years
- Performing twice HAZOP Study and Consequence Analysis leading to design optimization of structures, buildings and equipment's layout

- Employment growth by emphasizing on local manpower recruitment in the deprived project region
- Managing of 1,958,726 man-hour accident-free work

7.10. Olefin unit of Gachsaran Petrochemical Company

Project name	Olefin unit of Gachsaran Petrochemical Company
PIDMCO Rule	Managing of Contract
Licensor	Technip France
Client	Gachsaran Petrochemical Company
Location	Gachsaran
Starting of the project	2020
Starting of the Contract	2020
Project budget	537.5 M€ + 38,200 B IRR
Feed (KTPY*)	Ethane: 1,250
Products (KTPY*)	Ethylene: 1,000 C3+: 84.3

* Kilo Tons per Year

Project Scope: One MTPY Ethane cracking plant and utilities to support both olefin and future polymer plant; including raw water transmission line and water treatment, cooling water system, steam generation, air and nitrogen separation and wastewater treatment units.

Project Volumes:

Item	Scale	Value
Excavation and embankment	Million M ³	1.97
Concreting	M ³	132,326
Steel structure	Tons	9,761
Equipment erection	Tons	18,532
Pipe welding	Diameter-Inch	770,290
Electricity and I&C Cabling	Km	1,124.5

Our added value

- Planning domestic procurement for all drums and process towers, reformers, air coolers and pumps in project charter to reinforce national economy and cost saving
- Olefin unit engineering optimization and indigenization of leading to cost saving, execution accelerating and space efficiency such as:
 - Redesign of 9 cracking furnaces with 7000 G cal/hr calorific value based on previous project's lesson learned
 - Indigenization of 670 cracking furnace burners with 1.04 G cal/hr calorific value apiece
 - Detail design and Indigenization of cryogenic double-wall tanks to store 38,000 and 18,000 m³ Ethylene and Ethane in -106 °C degree
 - Detail design of 3 flare stack with aggregated 708 ton/hr capacity, max 90m of height and 60' diameter

- Indigenization of 2 Propylene Spherical tanks with aggregated 6,000 m³ capacity and one cryogenic off-spec ethylene tank with 1200 m³ capacity in -60 °C
- Indigenization of C₂ splitter tower of LTCS material (-60 °C) with the height of 60 m, 5.7 m diameter and 600 tons weight
- Indigenization of quench water tower with the height of 25 m, 7 m diameter and 150 tons weight
- Utilities design and manufacturing indigenization leading to cost saving and execution accelerating such as:
 - Conducting design, supply and execution of the biggest Zero liquid discharge (ZLD) type of chemical waste water treatment (250 m³/hr) in Iran
 - Raw water pump station (2,500 m³/hr)
 - Water treatment unit (2000 m³/hr desalinated water and 400 m³/hr demineralized water)
 - 11 cells of cooling water tower (44,000 m³/hr)
 - Steam generator unit (360 tons/hr)
 - Electricity substation (132 KV, 70 MVA) and 12 transformers (125.2 MVA)

7.11. HYCO unit of Karoun Petrochemical Company

Project name	HYCO unit of Karoun Petrochemical Company
PIDMCO Rule	Managing of Contract
Licensor	Haldor Topsoe
Client	Karoun Petrochemical Company
Location	Mahshahr Petrochemical Economic Zone
Starting of the project	2018
Starting of the Contract	2018
Project budget	51.6 M€ + 640 B IRR
Feed (MTPY *)	Natural Gas: 33,818
Products (MTPY *)	Carbon monoxide: 35,000 Hydrogen: 11,900

* Million Tons per Year

Project Volumes:

Item	Scale	Value
Excavation and embankment	M ³	12,188
Concreting	M ³	3,815
Steel structure	Tons	513,800
Equipment erection	Tons	1,889
Pipe welding	Diameter-Inch	40,000
Electricity and I&C Cabling	Km	138

Our added value

- Planning for more than 60% domestic procurement of equipment to reinforce national economy and cost saving
- Employment growth by emphasizing on local manpower recruitment
- Integration and interface management of 92 contractors
- Managing of 176,900 man-hour accident-free work

7.12. Andimeshk Ethylene oxide plant

Project name	Andimeshk Ethylene oxide plant
PIDMCO Rule	Managing of Contract
Licensor	ELPC Co.
Client	Andimeshk EbneSina Petrochemical Company
Location	Khuzestan province - Andimeshk
Starting of the project	2020
Starting of the Contract	2021
Project budget	388 M\$
Feed (KTPY*)	Ethylene: 88,453 Oxygen: 81,600
Products (KTPY*)	Ethylene Oxide: 121,000 Ethoxylate: 101,000 Glycol ether: 55,243 Ethanalamine: 31,097

* Kilo Tons per Year

Utilities and Auxiliary:

Item	Scale	Value
Natural Gas for Heat & Steam	M ³ /h	9,800
Steam	T/h	81
Reverse Osmosis Water	M ³ /h	270
Demineralized Water	M ³ /h	13
Boiler Feed Water	M ³ /h	50
Sanitary and Ancillary Water	M ³ /h	232

Project Scope: EO, Ethoxylation, glycol ether, Ethanalamine, MDEA units and Utilities and offsite units

Our added value:

- Conducting domestic procurement for more than 65% of equipment in project charter to reinforce national economy and cost saving
- Resolution of license constraints and acquiring of basic design
- Facilitating of water supply source and permission, Land acquisition, Electricity and communication supply study
- Conducting bankable feasibility study and tracing of finance process

7.13. Refurbishment and renovation of unit No. 800 and TK-2001C Reservoir of Bu-Ali Sina Petrochemical Company

Project name	Rehabilitation of unit No. 800 and TK-2001C Reservoir of Bu-Ali Sina
PIDMCO Rule	General contracting
Licensor	AXENS – France
Client	Bu-Ali Sina Petrochemical Company
Location	Bandar-e-Imam special economic zone
Starting of the project	2018
Starting of the Contract	2019
Project budget	14.7 M€ + 5080 B IRR
Feed (tons/hr)	C8+: 108 Naphtha: 216
Products (KTPY*)	Paraxylene: 430 Heavy Aromatics: 23 Raffinate: 200 Benzene: 180

* Kilo Tons per Year

Project Volumes:

Item	Scale	Value
Excavation	M ³	1800
Concreting	M ³	750
Steel structure	Tons	45000
Equipment erection	Tons	14000
Pipe welding	Diameter-Inch	31310
Electricity and Ins & Cabling	Km	126
Reservoir	M ³	42,000

Our added value

- Indigenizing and manufacturing of highest tower in the middle east and furnaces NO. 8001 and No. 8003 for the first time in Iran
- Technical knowledge indigenizing of reactor Catalyst to achieve cost saving and independence for the client
- Conducting of design optimization and manufacturing of Molecular sieve Adsorption Tower and upgrade of adsorbent by local suppliers
- Implementing most new technologies in design and manufacturing of the Paraxylene Main Tower to reduce dimension of the tower and cost of the project.

7.14. Light Naphtha sweetening unit of Bu-Ali Sina Petrochemical Company

Project name	Light Naphtha sweetening unit of Bu-Ali Sina Petrochemical Company
PIDMCO Rule	General contracting
Client	Bu-Ali Sina Petrochemical Company
Location	Bandar-e-Imam special economic zone
Starting of the project	2019
Starting of the Contract	2019
Project budget	12 M€ + 1000 B IRR
Feed (tons/hr)	Light Naphtha: 44 Hydrogen: 0.07
Products (KTPY*)	C5+: 211 LPG: 68 Raffinate: 65

* Kilo Tons per Year

Project Scope: Light end Hydro treating and fractionation Unit as EPC project

Project Volumes:

Item	Scale	Value
Excavation	M ³	13527
Concreting	M ³	3868
Steel structure	kg	658533
Equipment erection	Tons	870
Pipe welding	Diameter-Inch	71925
Electricity and Ins& Cabling	Km	230

Our added value

- Production rate growth of main plant by 10% in compare with nominated and designed rate
- Technical knowledge indigenizing by conducting and patronage of local suppliers for the complete design of the unit such as reactor 2101 catalyst which was supplied from abroad
- Conducting and patronage of local suppliers for manufacturing of towers, reactors, reformers and air fans
- Implementing innovative solution to reduce the cost and time of the project
- New interconnection plan for the unit resulted in cost saving and faster startup

7.15. Polypropylene unit of Ilam Arghavan-Gostar Petrochemical Company

Project name	Polypropylene unit of Argavan Gostar Ilam
PIDMCO Rule	Managing of Contract
Licensor	ILF
Client	Ilam Argavan-Gostar Petrochemical Company
Location	Ilam, South of Ilam Petrochemical complex
Starting of the project	2017
Starting of the Contract	2017
Project budget	20,000 B IRR + 46 M €
Feed (KTPY*)	Propylene: 150 Ethylene: 10 Hydrogen: 0.35
Products (KTPY*)	Polypropylene grades: 150 (Including Homopolymers, Copolymers, Block Copolymers)

* Kilo Tons per Year

Project Scope:

- Purchasing, dismantling and transportation of a **used propylene plant** from Australia to Iran-Ilam
- Basic and detail design
- Procurement of required equipment
- Construction
- Pre-commissioning and commissioning

Project Volumes:

Item	Scale	Value
Excavation	M ³	90,684
Concrete Pouring	M ³	29,085
erection	Tons	3,845
UG Piping	ID	13,640
AG Piping	ID	120,165
Fixed Equipment erection	Tons	1,662
Reservoirs	Tons	2,000

Our added value

- Project risk management throughout Purchasing, dismantling and transportation of the used plant from Australia to Iran as well as construction and commissioning phases
- Providing Integrated Master Scheduling for equipment acquisition and implementation
- Effective defense and Claim management for the amount of 423 B IRR and 178,000 €
- Two million man-hours accident-free work leading to death

- Conducting to eliminate dedicated PP flare system and centralizing of all Ilam complex flare gases which has led to:
 - Saving **2 M€** cost of design, procurement and construction of dedicated flare system
 - Reducing environmental impacts
 - Elimination of flare MP Steam supply restriction in the complex
 - Space free up for chemical and catalyst warehouse
- Effective recycling of used equipment such as pipe accessories

7.16. GRP pipelines replacement with carbon steel pipes in Persian Gulf Mobin Energy Company

Project name	GRP pipelines replacement with carbon steel pipes in Persian Gulf Mobin Energy Company
PIDMCO Rule	Managing of Contract
Client	Persian Gulf Mobin Energy Company
Location	Persian Gulf Energy Petrochemical Intake
Starting of the project	2019
Starting of the Contract	2019
Pipeline fluid (M³/hr*)	Seawater: 122,000
Pipeline length (M)	3,200

* Cubic meter per hour

Project Scope: Supervising of tender documents preparation, engineering, Procurement, Construction and Commissioning

Project Volumes:

Item	Scale	Value
Pipe sizes	mm	1600 - 2200 - 2850
Pipe type	-	CS Pipe (Carbon Steel Pipes)
Excavation and embankment	M ³	43,000
Concreting	M ³	2,100
Pipe welding	Diameter-Inch	56,000

Our added value

- Increasing Reliability of seawater supply by reducing pipeline failure risk for 5 petrochemical and utility plants
- Conducting to manufacture 2,850 mm CS Pipe and valves for the first time in Iran
- Saving the project cost and time by modification of above ground and underground piping instead of concrete trench
- Conducting domestic procurement of all pipes, valves, fittings, flanges, paint and insulation, electrical materials and cathodic protection lead to cost saving

7.17. Olefin unit of Hormoz Persian Gulf Petrochemical Company

Project name	Olefin Plant of Hormoz Petrochemical Company
PIDMCO Rule	Managing of Contract
Basic engineering	Energy Industries Engineering Design (EIED)
Client	Hormoz Persian Gulf Petrochemical Company
Location	Pars petrochemical special economic zone Asaluyeh
Starting of the project	2020
Starting of the Contract	2020
Project budget	4,500 Million \$
Feed (KTPY*)	Ethane: 2 × 1000 Butane: 2 × 1200
Products (KTPY*)	Ethylene: 2 × 1258 Butadiene: 2 × 65 Polypropylene: 2 × 316 HDPE: 4 × 300 LDPE: 1 × 300 LL/HDPE: 2 × 300

* Kilo Tons per Year

Project Scope:

Phase 1: one 1300 KTPY Olefin, two 300 KTPY HDPE, one 300 KTPY LL/HDPE, one 300KTPY LDPE, one 316 KTPY PP, one 65 KTPY BD

Phase 2: one 1300 KTPY Olefin, two 300 KTPY HDPE, one 300 KTPY LL/HDPE, one 316 KTPY PP, one 65 KTPY BD

Our added value

- Proactive cooperating in data gathering, analysis, supporting and making decision about execution alternatives, feed specification, off-site systems and reservoirs
- engineering optimization and indigenization leading to cost saving, operational improvement, execution accelerating and space efficiency such as:
 - Increasing ground level in west site to save the excavation cost
 - Design review and modification of water path in cooling Water Exchangers Leads to preventing of a major operation failure
 - Deletion of Hydrogen compressor (C-401A/B) based on downstream demand re-investigation
 - Solving the problem of space limitation by proposing modification of ethylene tank type
 - Integrating of Butadiene unit control room and emergency electricity supply system with Olefin plant to save the project Investment cost
 - Optimizing of HVAC design basis to save the cost

- Ordering to add Pyrolysis gasoline hydrogenation and C5+ Fractionation leading to better product quality, Gum production preventing and providing added value for by defining new Projects in future
- Integrating of waste water treatment system with Damavand petrochemical Company to reduce the cost
- Integration of boiler condensate system of Auxiliary boiler with Hormoz olefin Plant
- Proposing new rout (OSBL) for flare pipeline to reduce civil work costs.

7.18. Ammonia and urea unit of Hengam Petrochemical Company

Project name	Ammonia and urea unit of Hengam Petrochemical Company
PIDMCO Rule	Managing of Contract
Licensor	Ammonia unit: Haldor Topsoe - Denmark Urea unit: Snamprogetti - Italia
Client	Hengam Petrochemical Company
Location	Asaluyeh – Phase 2
Starting of the project	2010
Starting of the Contract	2014
Project budget	470 M €
Feed (NM ³ /hr [*])	Natural Gas: 58,109
Products (TpD ^{**})	Ammonia: 2,200 Urea: 3,500

*Normal Cubic meter per hour

** Tons per Day

Project Volumes:

Item	Scale	Value
Excavation and embankment	M ³	201,250
Concreting	M ³	75,861
U/G piping	ID	89,995
A/G piping	ID	351,327
Steel structure	Tons	9,744
Fixed Equipment erection	Tons	8,465
Rotating Equipment erection	Tons	7,968
Reservoirs erection	Tons	4,119
Electricity and I&C Cabling	Km	732

Our added value

- engineering optimization and indigenization leading to process safety and operational improvement such as:
 - Proactive cooperation with the licensor to increase the capacity from 3,250 to 3,500 lead to benefit the client and preventing 175 Ton per Day excess CO₂ emissions
 - Conducting and management of capacity change effects over on all sub-systems design, procurement and construction
 - Design modification of Ammonia tanks from double wall single containment to double wall full containment lead to increasing tanks safety factor, preventing ammonia leakage and reducing ammonia vapor producing
 - Conducting Hydrogen recovery HAZOP study of ammonia unit to protect relevant expensive membranes and process continuity leading to ammonia production growth by 6%

- Suggestion a change in material of CO₂ removal system amine paths from carbon steel to stainless steel based on previous projects lesson learned to prevent corrosion and explosion of leaked hydrogen
- Suggesting to add dehydrogenizing reactor on input CO₂ to reduce inert gas, increasing the efficiency and mitigation of explosion probability
- Managing of 10,582,672 man-hour accident-free work
- Concluding of 35 major change orders during design, procurement, civil work and erection phases
- Human resource management for the client's staff as an additional service
- Awarding the R4E 3* certificate from petrochemical industries excellent award in 2017

7.19. Iran west ethylene pipeline from Asaluyeh to Tabriz (2,740 Km)

Project name	Iran west ethylene pipeline
PIDMCO Rule	Project executer as governmental agent
Client	National Petrochemical Industries Company
Location	13 provinces from Asaluyeh to Tabriz
Starting of the project	2004
Starting of the Contract	2012-2017 (By phasing)
Liquid	Ethylene
Capacity (KTPY*)	3,500
No. of consumer plants	14
Pipeline total length (Km)	2,740
Pipe diameter (Inch)	8" - 24"
Max. Pressure (Bar)	55-93
No. of pressure compressors	23 (50 MW) in 8 Stations
Metering Stations	8 in stations and 14 in delivery terminals
Pig Launcher & Receiver Stations	35 sending and receiving stations
Block Valve Stations	88 + 6
Cathodic Protection Stations	116
Communication & SCADA System	3 central systems, 5 local control system and 108 valve station control system
Right of way	10-14
Project budget	18,704 B IRR (For 2,100 Km)

Project Scope: Land acquisition, construction license and permission, land preparation, pipeline Compressor Stations, Metering Stations (heating system, regulation station and filtration), Pig Launcher & Receiver Stations, Block Valve Stations, Communication & SCADA System

We participated in the honors.

- Project management of the longest Ethylene pipeline in the world
- Execution management in the vast area of 13 provinces with severe four-season weather and tough geographical conditions
- Supply of the feed for more than 14 major petrochemical plants for industrialization of deprived areas



8. Our References (Before privatization)

Project/Client name	Product	Capacity (KTPY)	Commissioning date
Kharg Petrochemicals Co.	Methanol	660	1998
Bandar-e Imam Petrochemical Co.	para-xylene	180	2000
Bandar-e Imam Petrochemical Co.	MTBE	500	2002
Amir Kabir Petrochemical (Olefin 6)	HDPE	140	2002
Tondguyan Petrochemical Co.	PET (Bottle Grade)	60	2002
	Pet (Fiber grade)	352	
Tondguyan Petrochemical Co.	PTA1	350	2002
Khuzestan Petrochemical Co.	Polycarbonate	25	2002
	Liquid Epoxy Resin	5	
	Solid Epoxy Resin	5	
Bu-Ali Sina Petrochemical Co.	Benzene	179	2002
	Ortho-xylene	30	
	para-xylene	400	
NGL 1200 Gachsaran	Liquid Gas (MM ³)	26,000	2002
NGL 1300 Bibi-Hakimeh	Liquid Gas (MM ³)	22,000	2002
Amir Kabir Petrochemical (Olefin 6)	Ethylene	520	2003
Amir Kabir Petrochemical (Olefin 6)	Polypropylene	157	2003
Fanavaran Petrochemical Co.	Methanol	1,000	2003
Tondguyan Petrochemical Co.	PET Bottle Grade	132	2003
	PET Fiber Grade	132	
	PET-POY	66	
	PET-Staple	66	
Tondguyan Petrochemical Co.	PTA	350	2003
Fanavaran Petrochemical Co.	Acetic Acid	150	2003
Fanavaran Petrochemical Co.	Carbone Monoxide	140	2003
Borzuyeh Petrochemical (4 th Aromatics)	Benzene	430	2003
	Ortho-xylene	100	
	para-xylene	750	
Pars Petrochemical Co. (9 th Olefin)	Ethylene	1,000	2003
Pars Petrochemical Co. (9 th Olefin)	Ethane	1,600	2003
Razi Petrochemical Co.	Granular urea	594	2003
Maroun Petrochemical Co. (7 th)	Ethylene	1,100	2003
Zagros Petrochemical Co. (4 th)	Methanol	1,650	2004
Bisotoun Petrochemical Co.	Linear Alkyl-Benzenes	50	2004
Bandar-Imam Export Terminal and Reservoirs	-	-	2004
AmirKabir Petrochemical Co. (6 th)	LLDPE	300	2004
	Butadiene	51	
	Butene-1	20	
Maroun Petrochemical Co. (7 th)	C ₂₊	1,900	2004
Pardis Petrochemical Co.	Ammonia	677	2005
	Urea	1,073	
Razi Petrochemical Co.	Ammonia	677	2005
Kermanshah Petrochemical Co.	Ammonia	396	2006
	Urea	660	
Pardis Petrochemical Co. (2 th)	Urea	677	2009
	Ammonia	1,073	
Pars Petrochemical Co. (9 th)	Ethylene Benzene	645	2009
	Styrene Monomer	600	

Project/Client name	Product	Capacity (КТрУ)	Commissioning date
Morvarid Petrochemicals Co.	Ethylene	500	2009
Arvand Petrochemical Co.	Ethylene dichloride	788	2011
	vinyl chloride	303	
	PVC Suspension	300	
	Emulsion PVC	40	
	Chlorine	570	
	Sodium hydroxide (50%)	634	
West Ethylene Pipeline	Ethylene transmission (Km)	2,606	2012
Bandar-e Imam Petrochemical Co.	Ethane	443	2012
	Propane	870	
	Butene	688	
	Pentane	365	
	Hexane +	284	
	Fuel Gas	35	
Bushehr Petrochemical Co.	Ethane	1,650	2014
Marvdasht Petrochemical Co.	Urea granule	3,270	2015
	Ammonia	2,050	
	Electricity (MW)	75	
	Steam (tone/h)	100	
Marvdasht Utility and Offsite	Nitrogen (M ³ /h)	1,600	2015
	Cooling water (M ³ /h)	35,000	
	Water DM (M ³ /h)	400	
	Service water (M ³ /h)	25	
	Refined water (M ³ /h)	1,500	
	R.O water (M ³ /h)	1070	
	Drinking water (M ³ /h)	10	
	Compressed air (M ³ /h)	4,000	
Noori Petrochemical Co.	LLTE	840	2015
	HLTE	360	

9. facility and infrastructure projects

As a comprehensive support, PIDMCO, in addition to process and plant's project management, provides the clients with design, execution and supervision of related buildings, facilities and infrastructures. The company has references in more than 20 projects such as land reclamation from the sea, railways, airports, Residential complexes, Bridge and tunnel, Transmission lines, water treatment and berths, in special economic zones and petrochemical complexes.

10. procurement support and warehouse management

PIDMCO can provide clients with procurement support services and offers a variety of value propositions:

- Continues monitoring of supplying sources and Effective supervision on manufacturing and transportation
- Procurement cost management as for economies of scale
- Supporting High-Tech procurement
- Equipment and material quality assurance and performance guarantee
- Warehouse management

11. Our Achievements

- Conducting of project management standards and guidelines in petrochemical projects around the country
- Carrying out more than 40 research projects in the field of project management and translating and authorship of more than 50 relevant books.
- Development of comprehensive project management model (CPM3)
- Development of Project Management Competency Model for petrochemical industry

