

In the Name of God

Introduction to HEDCO Company



**Hampa Energy Engineering &
Design Company**

(Oct. 2023)

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HEDCO at a Glance

- ❑ HEDCO was founded in 2007 with collaboration of HAMP A Engineering Corporation and a group of highly experienced and innovative engineers working extensively in oil, gas and petrochemical projects as EPC project managers and senior engineers in different disciplines.
- ❑ HEDCO is certified as **Level 1 Engineering Consulting company** by the Iran MPO in the field of Oil, Gas & Petrochemical.
- ❑ HEDCO is certified as **Level 1 Construction Contracting company** by the Iran MPO in the field of Oil, Gas refineries and Petrochemical plants.
- ❑ HEDCO is between the 8 companies who have been registered in National Petrochemical Company (NPC) contractor list as **capable to design and construct the under License process plants**.
- ❑ Hedco Has been registered in the Common Resource System of National Iranian Oil Company (**NIOC Vendor List**) as Designer and Manufacturer for the 6 Technology Based Process Packages (**Heaters , Reformers , Cryogenic Tanks , Desalters , Vapor Recovery units & Scrubbers**).



HEDCO Quality System

Compliance of HEDCO quality management system with the requirements of **ISO-9001, ISO-14001, ISO-45001, ISO-29001, ISO-10002, ISO-10004 & ISO – 27001** have been certified by TÜV Nord CERT GmbH.



❖ **Quality Management Certificates:**

- **ISO 9001 (Quality Management)**
- **ISO 29001 (Quality Management System in Oil, Gas and Petrochemical)**
- **ISO 14001 (Environment Management)**
- **ISO 27001 (Data Security Management)**
- **ISO 10004 (Measure of Customer Satisfaction)**
- **ISO 10002 (Measure of Customer Satisfaction-Handling of Complains)**
- **ISO 45001 (Occupational Health and Safety Management)**
- **ISO 26000 (Social Responsibility)**

National Petrochemical Industries Excellence Award

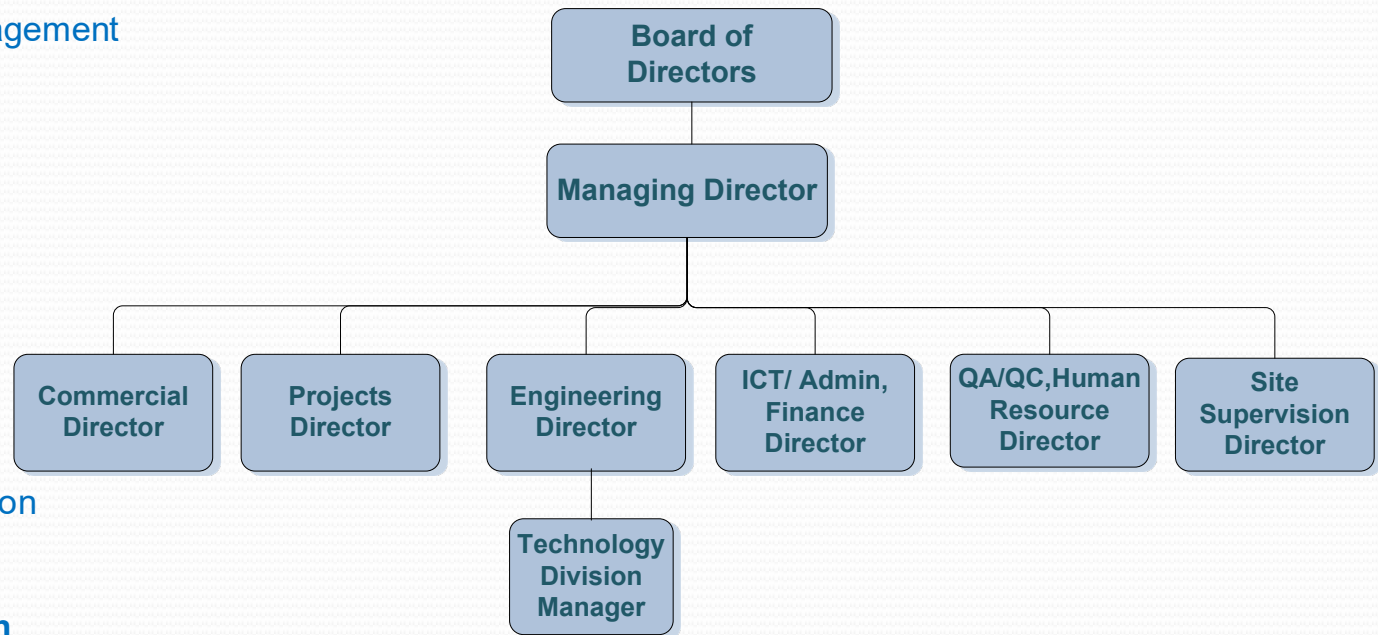
NPC Excellence Award

HEDCO
is the only
Iranian
Engineering
company who
has been
awarded
this Prize.



HEDCO Work Oriented Organization

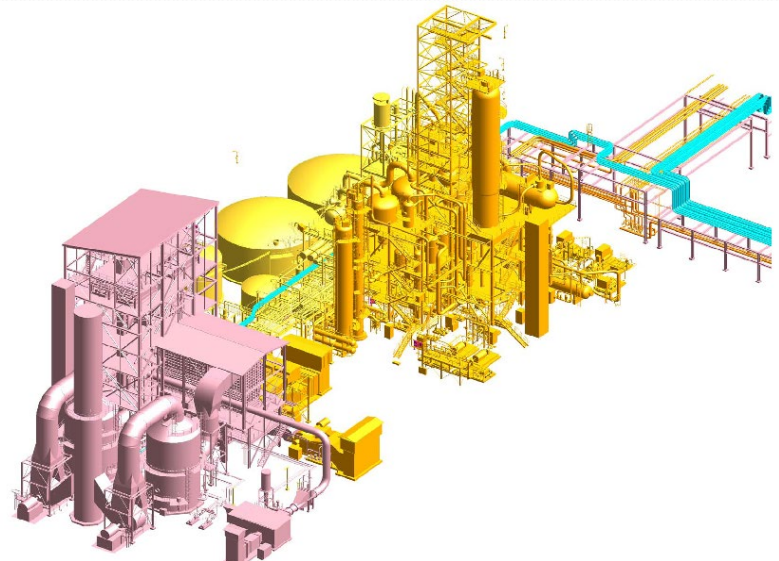
- ❖ **Marketing & Business Development**
 - ❖ Marketing & Business Development
 - ❖ Proposals
 - ❖ Contract
- ❖ **Financing**
- ❖ **Information & Communication Technology (ICT) Projects**
 - ❖ Project Management
 - ❖ Planning
 - ❖ Procurement
 - ❖ QA/QC
- ❖ **Engineering**
 - ❖ Process
 - ❖ Piping
 - ❖ Civil
 - ❖ Mechanical
 - ❖ Machinery
 - ❖ Electrical
 - ❖ Instrumentation
 - ❖ PSM & HSE
- ❖ **Site Supervision**



HEDCO Field of Activities

Based on the priorities and according to the articles written in establishment announcement, the company's field of activities is the industrial projects (mainly oil, gas and petrochemical branch) including:

- Product Market Study
- Feasibility Study
- Finance Arrangement
- Project Management Contracting (MC)
- Process Selection
- License & Know How Arrangement
- Plant Optimization
- Engineering
- Procurement services (order issue , expedite , Inspection , delivery)
- Construction Management
- Site Supervision (Construction , Commissioning , Test & Start up)
- Site Technical Assistance , Detail Technical Survey



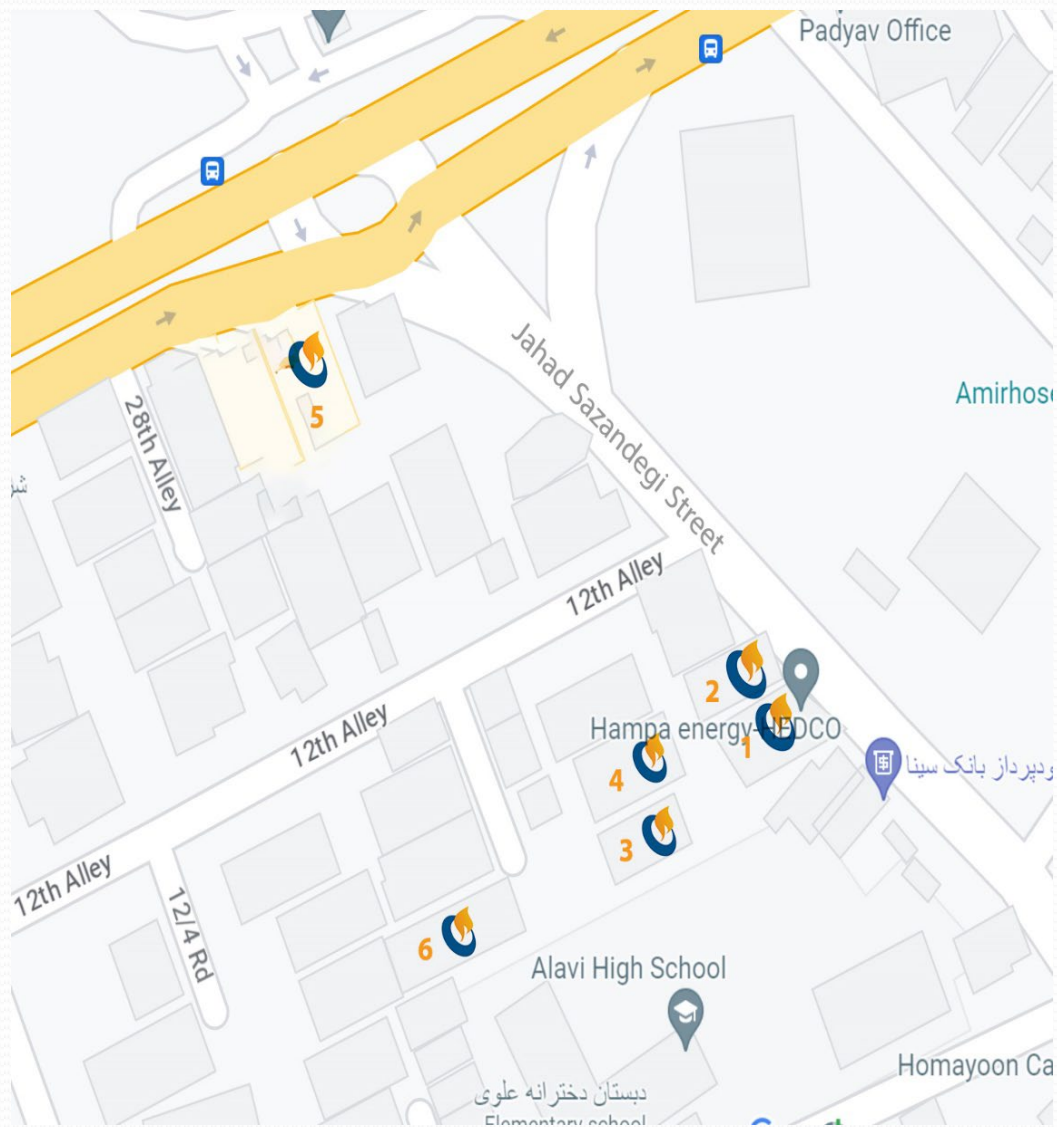
HEDCO Office Area

• Offices:

- Bldg. No. 1 : (Main Office) : 2000 m²
- Bldg. No. 2 : 913 m²
- Bldg. No. 3 : 900 m²
- Bldg. No. 4 : 900 m²
- Bldg. No.5 (Maral BDG) : 904 m²
- **TOTAL AREA : 5617 m²**
- BDG. No. 6 : 1775 m²
(Under Construction)

• Guest Houses:

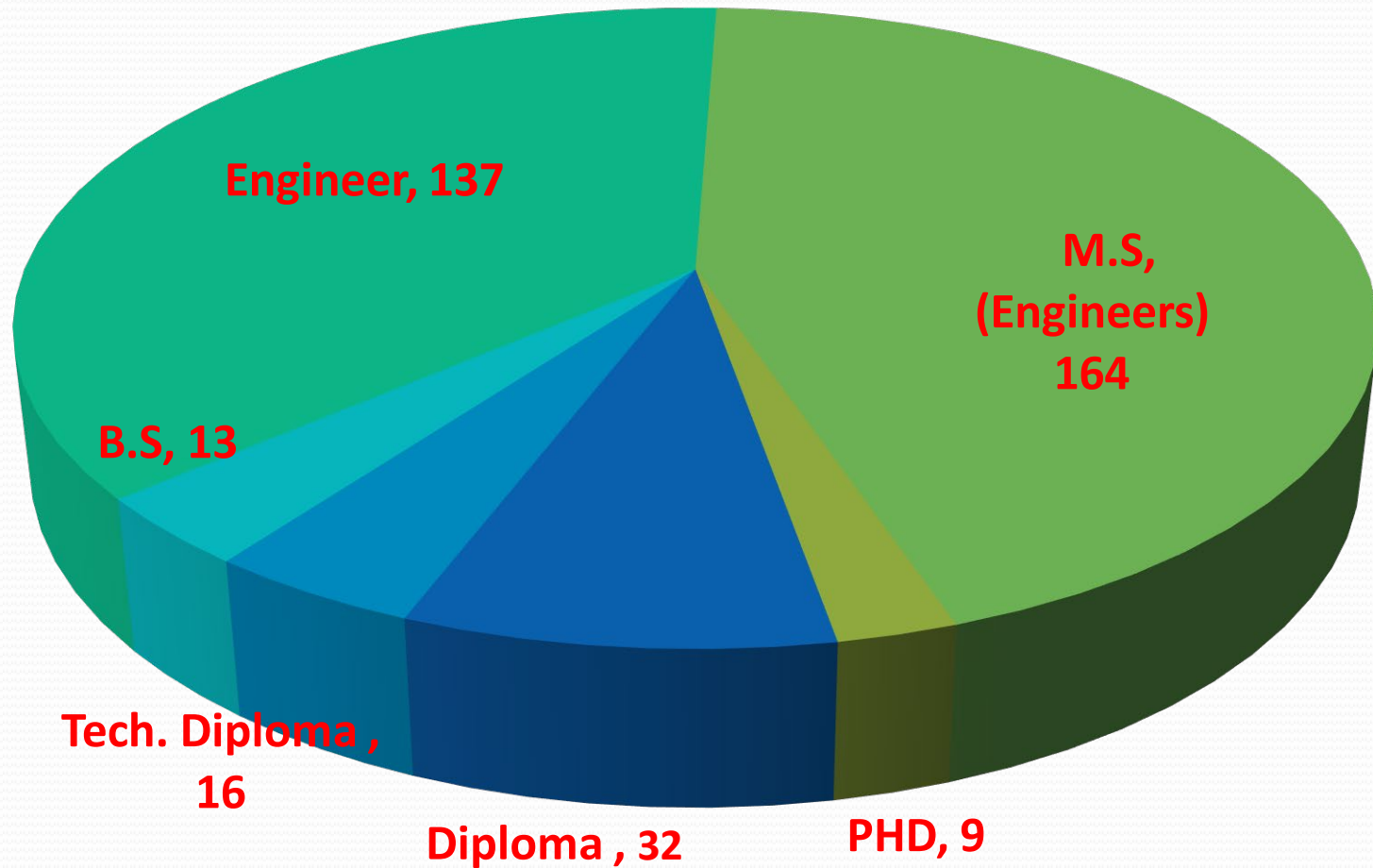
- Tehran: 1 No.
- Assaluyeh: 12 No.'s
- Qeshm : 2 No.'s



HEDCO Staff (High Education)

(Print Date : **Oct.2023**)

Total No. Of Personnel: 371



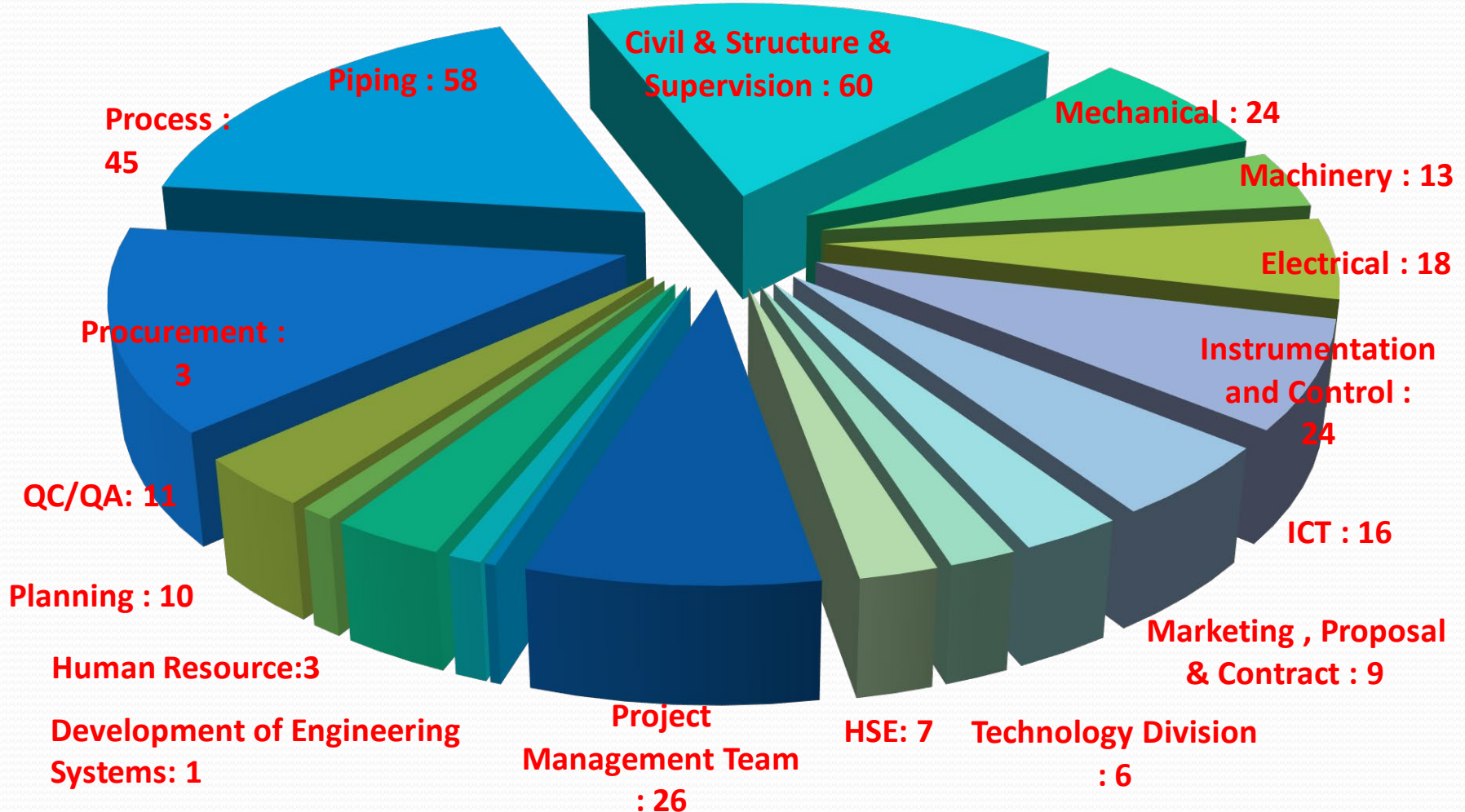
HEDCO Staff (Specialists)



HEDCO

(Print Date : **Oct. 2023**)

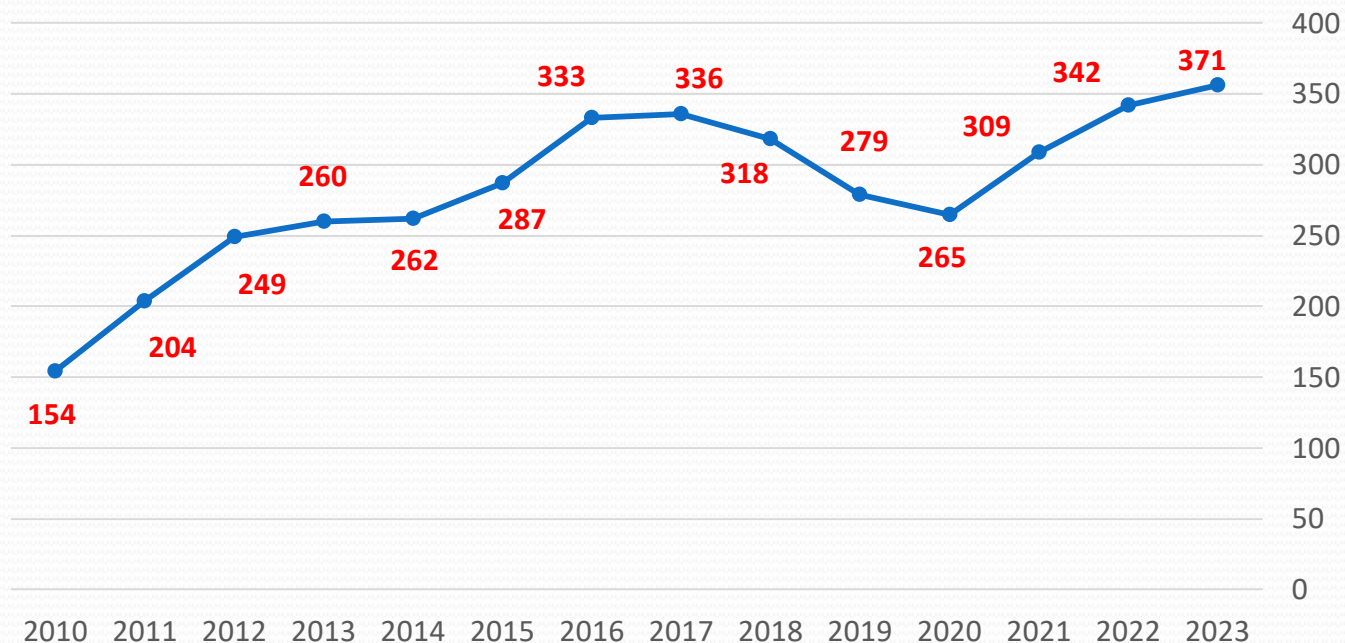
Total No. Of Specialists : 334



HEDCO Growth and Personnel Increase

—●— No. of Personnels

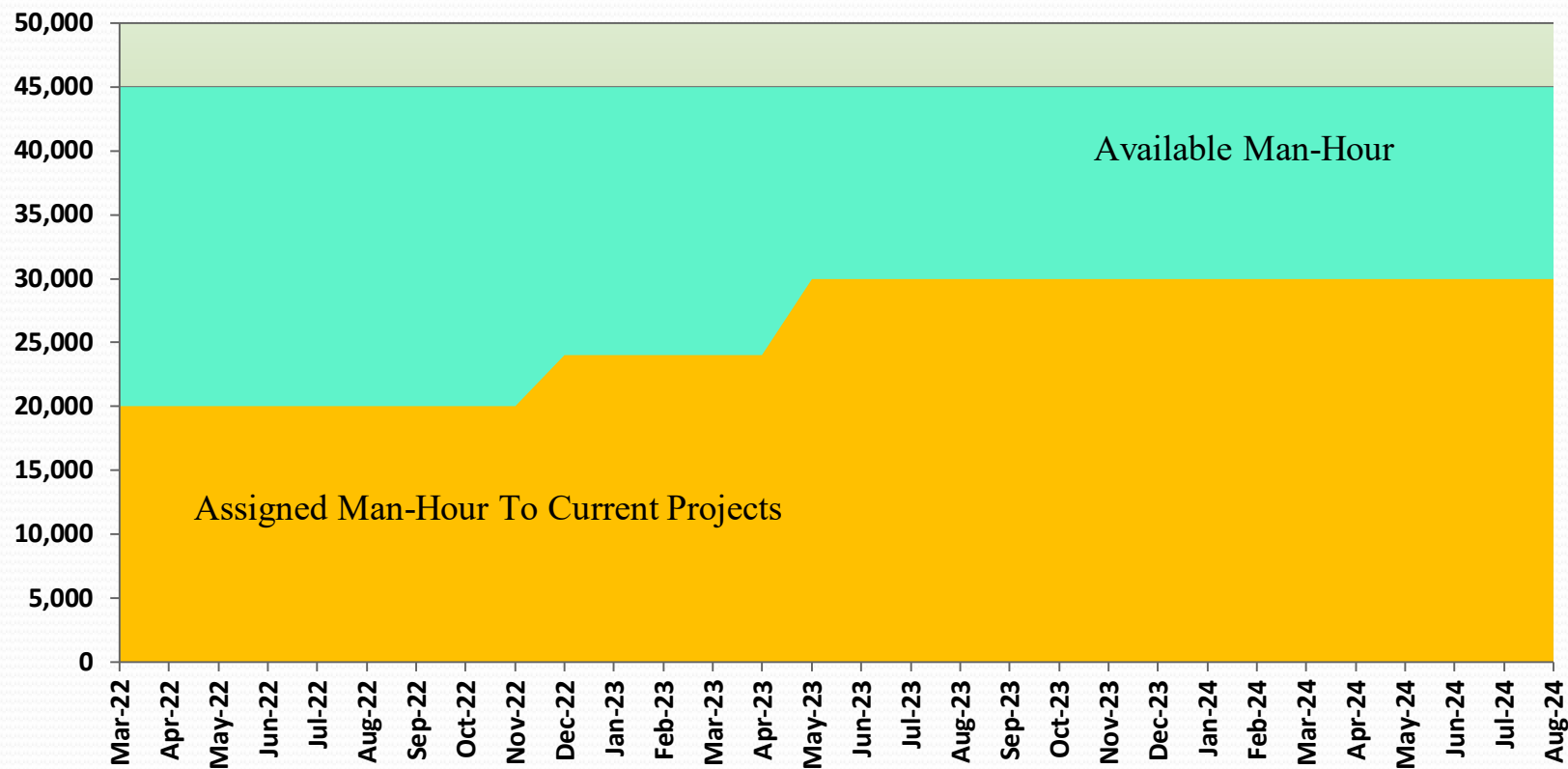
Growth in No. of Personnels



(Print Date : Oct. 2023)

HEDCO Assigned & Available Man-Hour Status

(Print Date : Oct. 2023)



HEDCO Hardware Facilities

(Print Date : Oct.2023)

Hardware List		
Item No.	Hardware	Quantity.
1	Personal Computer (PC)	334
2	Notebook (Laptop)	106
3	Display - Additional LCD	593
4	Printer A4	39
5	Copier/Scanner A4 /A3	7
6	Color Printer A3, A4	1
7	Plotter B/W A0, A1, A2	2
8	UPS	17
9	Telephone (Panasonic -KX-T665)	330
10	Telephone Center (Panasonic)	5
11	Tape Backup	2
12	Layer 3 Switches	5
13	Layer 2 Switches	25
14	Wireless Routers	19
15	NAS Server	1
16	NVR	2
17	Router	1
18	PRI Modem (Siemens)	2

HEDCO Projects (Page 1 of 2)



HEDCO

Major Projects Locations :

- 1 Pardis 3 Ammonia & Urea Plant
2. Razi Third Ammonia Storage Tank
3. Abadan Refinery Desalting Unit
4. Lordegan Ammonia & Urea Plant
5. Parsian Gas Refinery
6. Qeshm Heavy Crude Oil Refinery
7. Kermanshah Ammonia Tank
8. Farasakou Tank Farm
9. Jask Oil Terminal
10. Kermanshah Ammonia Reformer
11. Dehloran Ethylene and C2+ Storage Tanks
12. Danan Desalting Unit
13. Rayan Polymer HDPE Plant
14. Dezful Sugar Factory
- 15 . Kharg LPG Tanks)Propane & Butane(
- 16 . Pishgaman Siraf Condensate Refinery
17. Qeshm Condensate Refinery(JEPCO)

HEDCO Projects (page 2 of 2)



HEDCO

Major Projects Locations :

- 18. Lorch Methanol Plant
- 19. Pishgaman Siraf Aromatics Plant
- 20. Razi Ammonia Exchanger
- 21. Pars Oil Ammonia Absorption Unit

HEDCO Projects

a) Petrochemical Plants

1) Pardis 3 Ammonia & Urea Plant

- **Capacity** : 2050 MT/D Ammonia – 3250 MT/D Urea
- **Client** : Pardis Petrochemical Company
- **Location** : Assaluyeh
- **Scope** : Basic & Detail Engineering & Technical Procurement Services

2) Lordegan , Ammonia & Urea Plants

- **Capacity** : 2050 MT/D Ammonia – 3250 MT/D Urea
- **Client** : Lordegan Urea Fertilizer Company
- **Location** : Lordegan,
- **Scope** : Basic & Detail Engineering, Procurement Services

3) Lavan Ammonia & Urea Plants

- **Capacity** : 2050 MT/D Ammonia - 3250MT/D Urea
- **Client** : Lavan Chemical Company
- **Location** : Assaluye
- **Scope** : Grant of License, Basic & Detail Engineering, Procurement Services



HEDCO Projects (cont.'d)

a) Petrochemical Plants (cont.'d)

4) RAYAN Polymer HDPE Plant

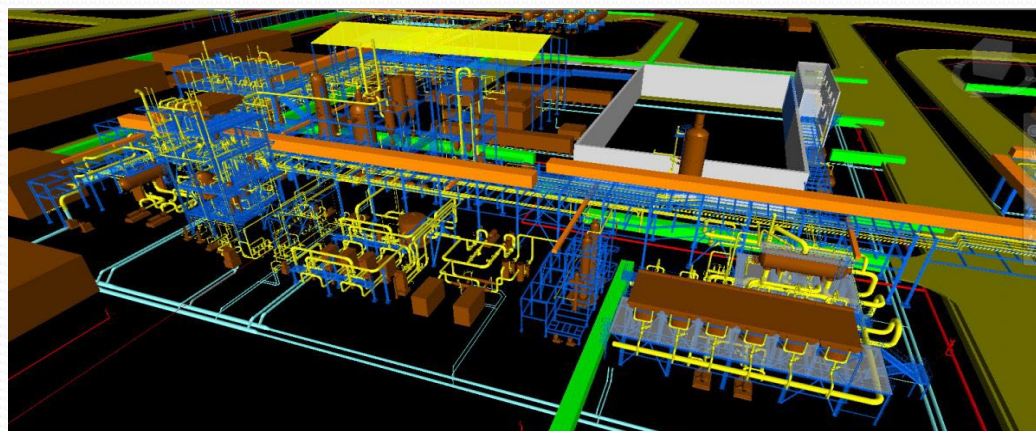
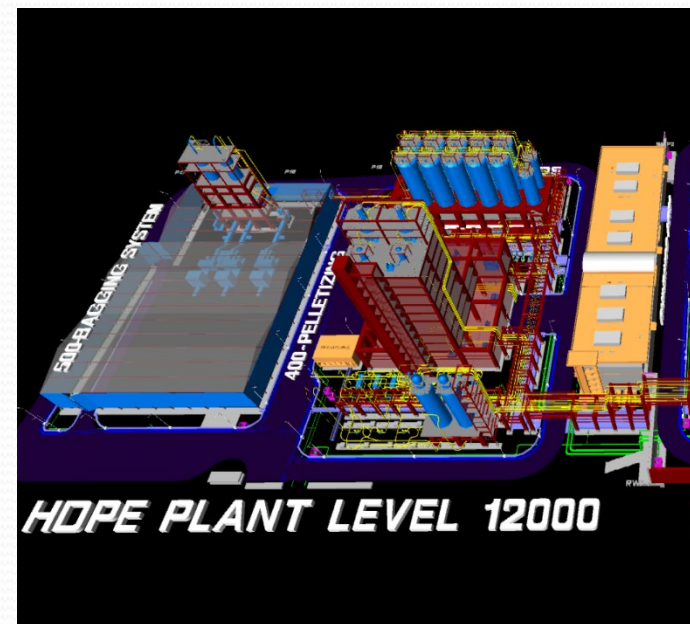
- Capacity: 500.000 t/y
- Client: Rayan Ploymer Pouya, Bakhtar Group
- Location : Assaluyeh
- Scope : Engineering and Technical Procurement Services for HDPE Plant and Basic and Detail Engineering of Utility, Offsite and off plot

5) Hemmat Urea Project

- Capacity : 2330 TPY Urea
- Client: Hemmat Petrochemical Company
- Location : Assaluyeh
- Scope : Conceptual Design ,
Feasibility Study
Environmental Impact Analysis

6) Fasa LDPE (Low Density Poly Ethylene)

- Capacity : 300,000 TPY LDPE
- Client : Pero Kimiaye Shargh
- Location : Fasa - Fars Province
- Scope : Basic Engineering and
Front End Engineering & Design
(FEED),EPC Tender Doc.'s

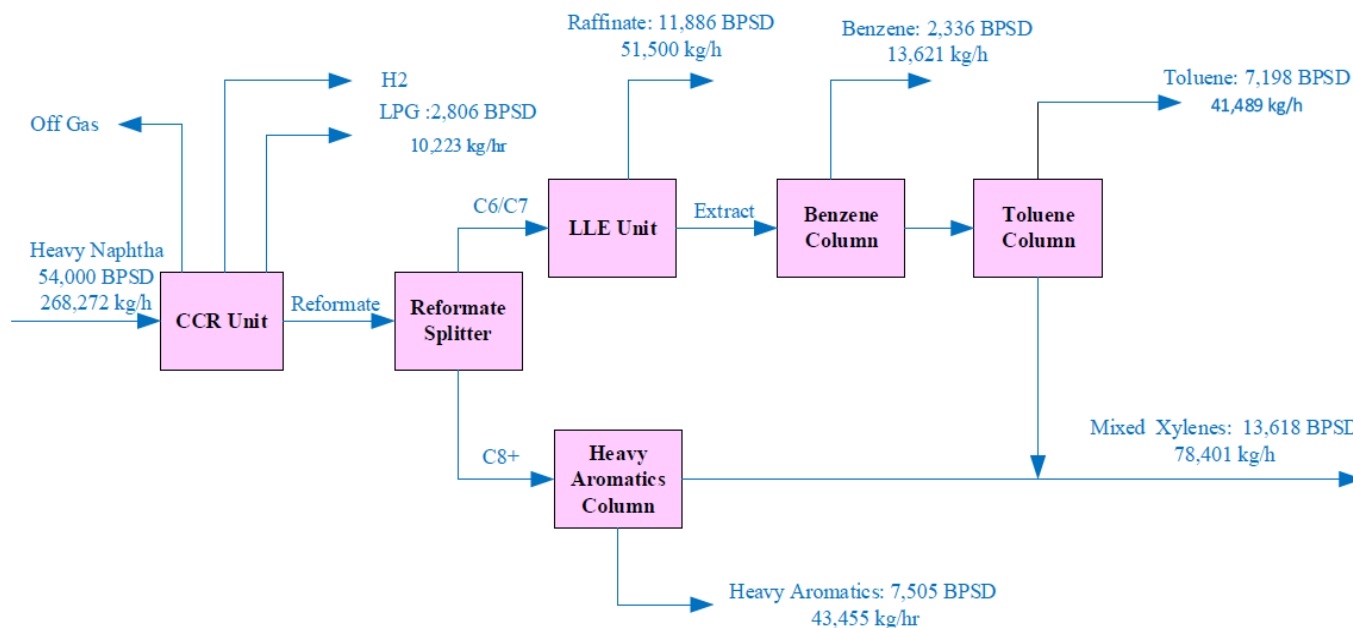


HEDCO Projects (cont.'d)

a) Petrochemical Plants (cont.'d)

7) Pishgaman siraf Aromatic Plant

- **Capacity:** 54,000 BPD (BTX – Benzene ,Toluene , Xylene)
- **Client :** Pishgaman Siraf Development Refining Company
- **Location :** Assaluyeh
- **Scope :** Engineering and Technical Procurement Services



HEDCO Projects (cont.'d)

a) Petrochemical Plants (cont.'d)

8) Lorch Methanol Plant

- Capacity: 5.000 TPD
- Client: Lorch Petrochemical Company
- Location : Assaluyeh
- Scope : Basic Design , Detail Engineering and Technical Procurement Services



HEDCO Projects(cont.'d)

b) Oil & Gas (Refineries)

1) Parsian Gas Refinery (C2 Recovery & Fractionation)

- Capacity : 80,000,000 Sm³/day of Natural Gas (Boutane)
- Client : Palayesh Parsian Sepehr Company
- Location : Mohr & Assaluyeh
- Scope : Basic Engineering Plus EPC (in cooperation with Hampa Co.)

2) Qeshm Heavy Crude Oil Refinery

- Capacity : Bitumen and Light Oil Cuts , 35,000 BBL/DAY
- Client : Pars Behin Paleyesh Qeshm Company
- Location : Qeshm Island
- Scope : Basic Review , Detail Engineering and technical procurement services



HEDCO Projects(cont.'d)

b) Oil & Gas (Refineries) – Cont.'d

3) Pishgaman siraf Gas Condensate Refinery

- Capacity: 60.000 BPSD
- Client : Pishgaman Siraf Development Refining Company
- Location : Assaluyeh
- Scope : Re-Basic Engineering , Detail engineering and Technical Procurement Services



4) Qeshm Gas Condensate Refinery

- Capacity : 60.000 BPSD
- Client : Javid Energy Parto Company(JEPCO)
- Location : Qeshm Island
- Scope : Pre-Engineering , Basic Engineering, Detail Engineering, technical procurement services , EPC tender Doc.'s



HEDCO Projects (cont.'d)

c) Others (Utilities , Tankfarm , Terminal , Industrial ,Master Plan , ...)

1) Lordegan Utilities & Offsite Plant

- Client : Lordegan Urea Fertilizer Co.
- Location : Lordegan
- Scope: Conceptual & Basic Engineering

2) Rayan Polymer Utilities & Offsite Plant

- Client : Rayan Polymer Co.
- Location : Assaluyeh
- Scope: Conceptual & Basic Engineering

3) Pishgaman Siraf Utilities & Offsite Plant

- Client : Pishgaman Siraf
- Location : Assaluyeh
- Scope: Conceptual & Basic Engineering

4) Lorch Methanol Utilities & Offsite Plant

- Client : Lorch Petrochemical Company
- Location : Assaluyeh
- Scope: Conceptual & Basic Engineering

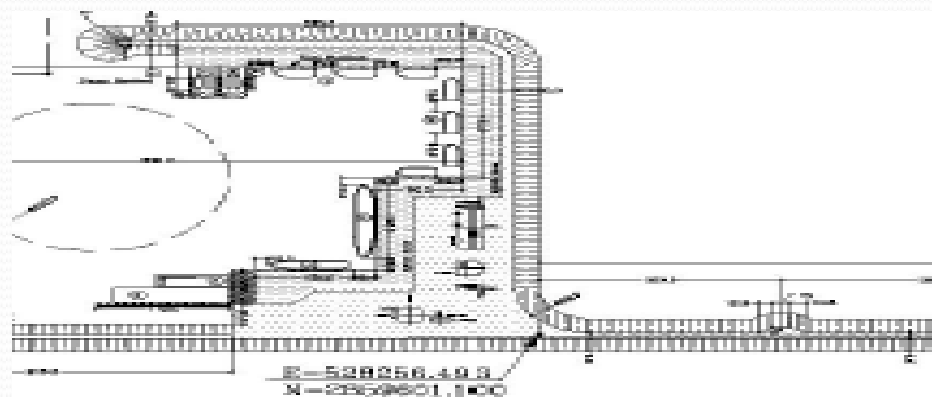


HEDCO Projects(cont.'d)

c) Others (Utilities , Tankfarm , Terminal , Industrial ,Master Plan , ...)

5) Jask Oil Terminal (Onshore Part)

- **Description:** Pipe Line, Pig Launcher Receivers, Metering Station, Loading Arms, Export Facilities, ...
- **Client:** POGC (Through Gamma)
- **Location :** Jask , Hormozgan
- **Scope :** Basic & Detail Engineering, supply (EP)



6) Farasakou Assaluyeh Tank Farm Project

- **Capacity:** 64 NO.'s of storage tanks
- **Client:** Farasakou Assaluye Company
- **Location :** Assaluyeh
- **Scope :** Basic & Detail Engineering, Site and Supreme Supervision



HEDCO Projects(cont.'d)

c) Others (Utilities , Tankfarm , Terminal , Industrial ,Master Plan , ...)

7) Shohadaye Ghand-e-Desful Co., Sugar beet Plant

- **Description:** Beet Sugar Plant 10.000 t/d
- **Client:** Nasir Energy Gostar Co.
- **Location :** Dezful City,Khuzestan Province
- **Scope :** Detail Engineering and Technical Procurement services



HEDCO Projects(cont.'d)

d) Desalting Units

1) Abadan Refinery Desalting Unit

- capacity : 110.000 bpd
- Client : Abadan Oil Refinery
- Location : Abadan
- Scope : Basic Engineering Plus EPC



2) Danan Oil Filed Development - Crude Oil Desalting Unit

- capacity : 10.000 bpd
- Client : Mapna Group
- Location : Dehloran oil field ,Ilam Province
- Scope : Engineering , Procurement , Fabrication and Integration

Danan Oil Field Desalter Package Skids weights and Dimensions					
Skid No.	Main Equipment	Dimensions (m)			Weight (tons)
		Length	Width	Height	
1	1 st stage desalter	14.5	5.5	5.5	43
2	2 nd stage desalter	14	5.5	5.5	41
3	Indirect fired heater	15	5	6	46
4	Crude pump 1	3.5	2	2.5	5
5	Crude pump 2	3.5	2	2.5	5
6	Crude feed control skid	4	2.5	3.5	3
7	Crude Delivery adjusting skid	3	1	2	1.5

HEDCO Projects(cont.'d)

e) Cryogenic Storage Tanks

1) Razi Third Ammonia Storage Tank

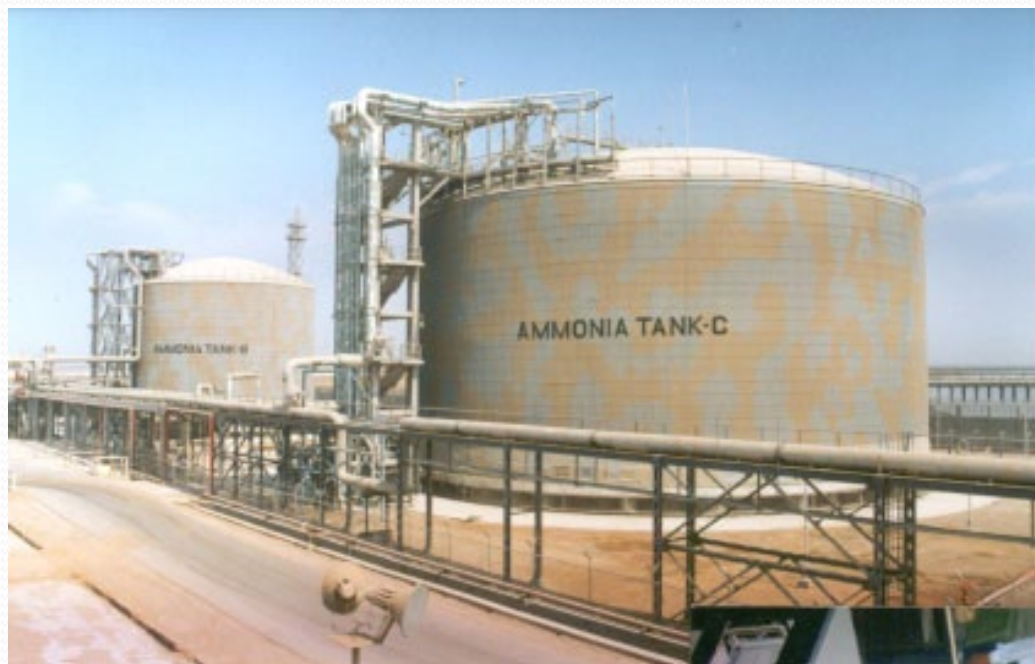
- Capacity : 30,000 Tons
- Client : Razi Petrochemical Company(RPC)
- Location : Bandar Imam
- Scope: EPCC

2) Butane and Propane Storage Tanks for Parsian Gas Refinery (4 No.'s)

- Capacity: 26,000 m3 each
- Client : Palayesh Parsian Sepehr Co.
- Locations: Mohr & Assaluyeh
- Scope: Basic & Detail Engineering and Procurement Services

3) Lordegan Ammonia Tank

- Capacity: 20,000 Tons
- Client : Lordegan Urea Fertilizer Co.
- Location : Lordegan
- Scope: Basic & Detail Engineering and Procurement Services



HEDCO Projects(cont.'d)

e) Cryogenic Storage Tanks (Cont.)

4) Kermanshah Ammonia Tank

- Capacity: 10,000 Tons
- Client : Kermanshah Petrochemical Co.
- Location : Kermanshah
- Scope: Design Review and Construction

5) Kharg LPG Tanks (Propane & Butane)

- Capacity: 2 no.'s , 45,000 m3 each
- Client : Saff Group (Reactorsaz)
- Location : Khark Island
- Scope: DTS , Basic & Detail Engineering

6) Dehloran Ethylene and C2+ Storage Tanks

- Capacity: Ethylene 14.100 m3, C2+ 22.000 m3)
- Client : OIEC(Oil Industries Engineering and Construction)
- Location : Dehloran, Ilam Province
- Scope: EPCC

7) HORMOZ Ethylene Tank

- Capacity: Ethylene 30,000 m3,
- Client : NAMVARAN CO.(Hormoz Petrochemical Company)
- Location : Assaluyeh
- Scope: EP



HEDCO Projects(cont.'d)

f) Ammonia Reformers

1) Pardis Ammonia Reformer Package

- Thermal Capacity: 228 MW
- Client : Pardis Petrochemical Company
- Location : Assaluyeh
- Scope: Detail Engineering and Procurement Services

2) Razi Reformer Package (Ammonia Plant 2)

- Client : Razi Petrochemical Co.
- Location : Bandar Imam
- Scope: Revamping Consultancy , EPS

3) Kermanshah Ammonia Reformer Package

- Thermal Capacity: 175 MW
- Client : Kermanshah Petrochemical Co.
- Location : Kermanshah
- Scope: EPC

4) Fanavaran Methanol Reformer Package

- Client : Fanavaran Petrochemical Co.
- Location : Bandar Imam
- Scope: Combustion System Upgrading Design and Engineering



HEDCO Projects(cont.'d)

g) Fired Heaters

1) Parsian fired heaters (2 No.'s)

- Thermal Capacity: 16 MW each
- Client : Palayesh Parsian Sepehr Company
- Location : Mohr
- Scope: Engineering and Supply of equipment

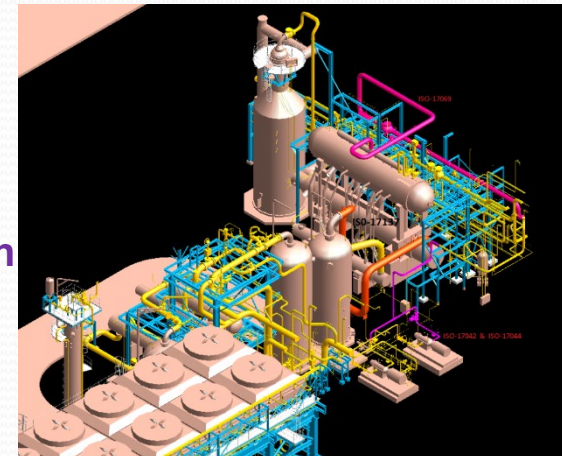
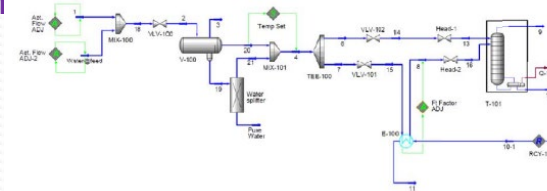
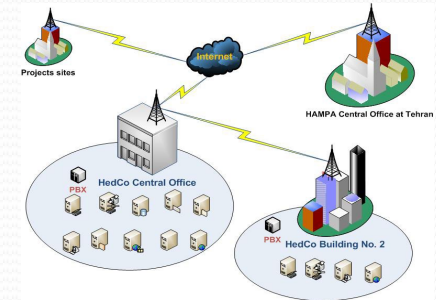
2) Shiraz Refinery H-301 Troubleshooting

- Client : Shiraz Refinery
- Location : Shiraz
- Scope: Troubleshooting



HEDCO Major Management and Engineering Tools :

- **Software Platform for Project Execution: HTMS (HEDCO Total Management System)**
 - Project Management & Communication
 - Document Generation, Distribution & Control
 - M.R & Vendor Data Control
 - Construction Material & Activity Control
- **Process Simulation: (Aspen+ , Aspen Hysys ,Pro II, Special Home made)**
 - Reaction & Catalyst Design and selection
 - Heat & Material Balance Calculation
 - Equipment Design and Sizing
- **Plant 3D Design: (PDMS)**
 - 3D Modeling
 - Interference Checking
 - Fault Design Prevention
 - Increasing the Precision & Speed of work
 - Preventing Rework -Engineering & Construction



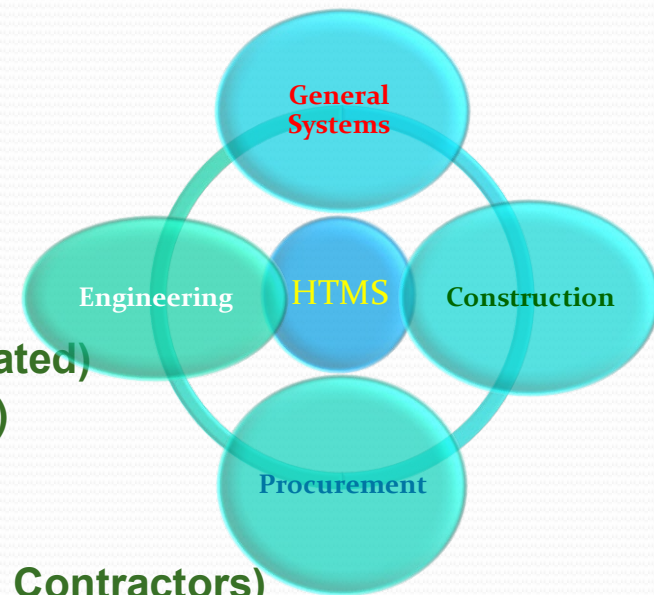
HEDCO Total Management System(HTMS)

**ICT is not simply a tool
but a glorious work media.**

HEDCO performs his projects in an Integrated Software Platform called;
HTMS

❖ **HTMS Specifications:**

- Web Based & Global Access
- Real time & On-Line Performance
- Paperless Document Distribution/Circulation
- Total Project Task & Phases Coverage (EPC Integrated)
- Work Flow definable (Taylor Made to Best Practice)
- Correspondence Control
- Hierarchical Information Access
- Total Users Coverage (Client, Vendors, Inspectors, Contractors)
- User friendly to all users (Designers , Management , Client , Vendors)
- Task Execution Transparency
- Automatic Task Assignment , Expediting , Reporting & Progress Measurement



HEDCO Superior Management Services (HSMS)

In order to reach the highest degree of esteemed client's satisfaction , HEDCO has developed the HSMS consisting of the following sections:

❖ **Orange Blossom System (سامانه بهار نارنج - مرکز اسناد تبلیتی)**
comprising of two parts:

- The Hardware section which is a standard industrial tablet
- The software section which is an online project document center



❖ **Real Time Dashboard (RTD) - داشبورد زمان واقعی**

❖ **Active Document Control Index (ADCI) - فهرست مدارک فعال**

❖ **Plant's Continuous Diagram (PCD) - دیگرام پیوسته واحد**

HEDCO Engineering Standards

No.	SECTION	STANDARD	DESCRIPTION
1	GENERAL	ISO	ISO - International Organization for Standardization
2		BSI	BSI - British Standards Institution
3		DIN	DIN - Deutsches Institut für Normung e.v.
4		VDI	VDI - VEREIN DEUTSCHER INGENIEURE
5	MECHANICAL	ASME	ASME - American Society of Mechanical Engineers
6		ASTM	ASTM - American Society for Testing and Materials
7		ANSI	ANSI - American National Standards Institute
8		API	API - American Petroleum Institute
9		ASHRAE	ASHRAE - American Society of Heating ,Refrigerating and Air-Cond.
10	CIVIL AND STRUCTURE	AISC	AISC - American Institute of Steel Construction
11		ASCE	ASCE - American Society of Civil Engineers
12		ICAD	ICAO - International Civil Aviation Organization
13	ELECTRICAL AND INSTRUMENTATION & CONTROL	IEC	IEC - international Electrotechnical Commission
14		IEEE	IEEE - Institute of Electrical and Electronics Engineers
15		NEMA	NEMA - National Electrical Manufacturers Association
16		ISA	ISA - The Instrumentation, Systems and Automation Society of America
17	SAFETY	NFPA	NFPA - National Fire Protection Association
18	QA/QC	NACE	NACE - National Association of Corrosion Engineers
19		AWS	AWS - American Welding Society
20		AWWA	AWWA - American Water Works Association

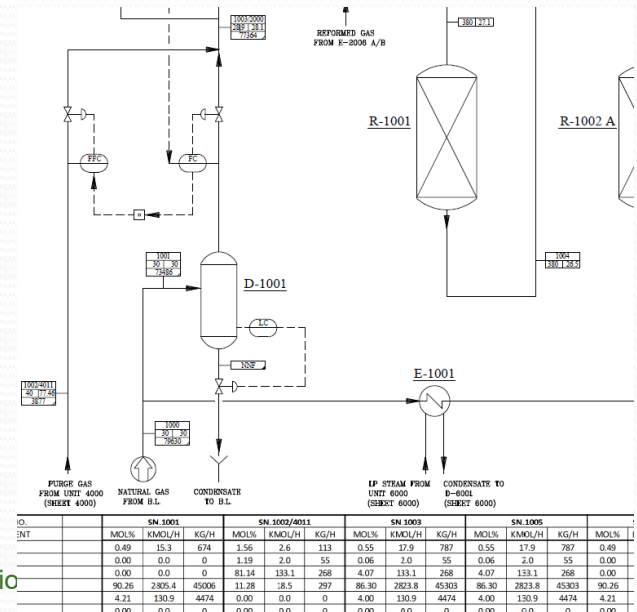
HEDCO Basic Engineering Experiences

Basic Design aspects:

- ✓ Preparing BDP
- ✓ PDP to BDP
- ✓ Implementing Changes to the existing BDP:
 - Feed
 - Site Conditions
 - Plant's capacity
 - Turn Down Ratio
 - Process Modifications

Experiences and References:

- ✓ Preparing BDP
 - **Ammonia Unit** for : Lavan Petrochemical Company
 - **C2 Recovery and Fractionation Unit** for : Parsian C2+ Recovery & Fractio
 - **CDU , SWS , AMIN Units** for : Pishgaman Siraf Refinery
 - **Utility Units:** Lordegan Petrochemical , Parsian C2+ Recovery & Fractionation Project ; Pishgaman Siraf Refinery
- ✓ PDP to BDP
 - **Urea Unit** for : Lordegan Petrochemical Company (STAMICARBON)
 - **Methanol Unit** for : Fajr Kerman (NPC-RT)
 - **Methanol Unit** for : Lorch Petrochemical (NPC-RT)
- ✓ Changes
 - **Ammonia Unit** for : Pardis Petrochemical Company (CASALE)+ 360 Process Modification
 - **LDPE Unit** for : Fasa Petrochemical Company (BASEL)



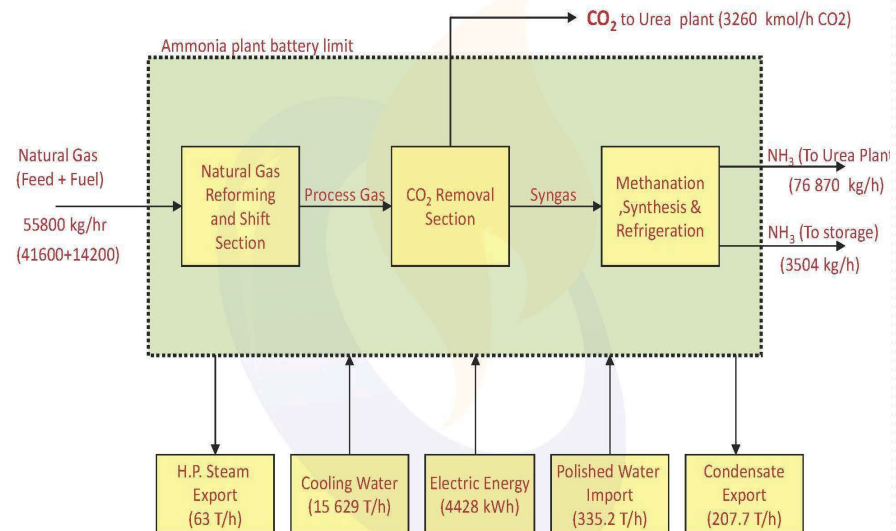
ID	SN 1001			SN 1002/1011			SN 1003			SN 1005		
	INT	MOL%	KG/H	MOL%	KG/H	MOL%	KG/H	MOL%	KG/H	MOL%	KG/H	MOL%
		0.49	15.3	674	1.56	2.6	113	0.55	17.9	787	0.55	17.9
		0.00	0.0	0	1.19	2.0	55	0.06	2.0	55	0.06	2.0
		0.00	0.0	0	81.14	133.1	268	4.07	133.1	268	4.07	133.1
		90.26	2895.4	45006	11.28	28.5	297	86.30	2823.8	45303	86.30	2823.8
		4.21	130.9	4474	0.00	0.0	0	4.00	130.9	4474	4.00	130.9
		n.n	n	n	n.n	n	n	n.n	n	n	n	n

HEDCO Ammonia License

- After many times performing the Basic and Detail engineering of Ammonia units, and acquiring complete knowledge about different methods of ammonia production process, HEDCO has developed and registered its specific method for production of Ammonia.

Compared to existing Licenses, HEDCO License has advantages in:

- Plant's Energy Consumption
- Installation Cost
- Operating Cost.
- Ease of Operation
- Less Proprietary Equipment (Only Reactor Internal)



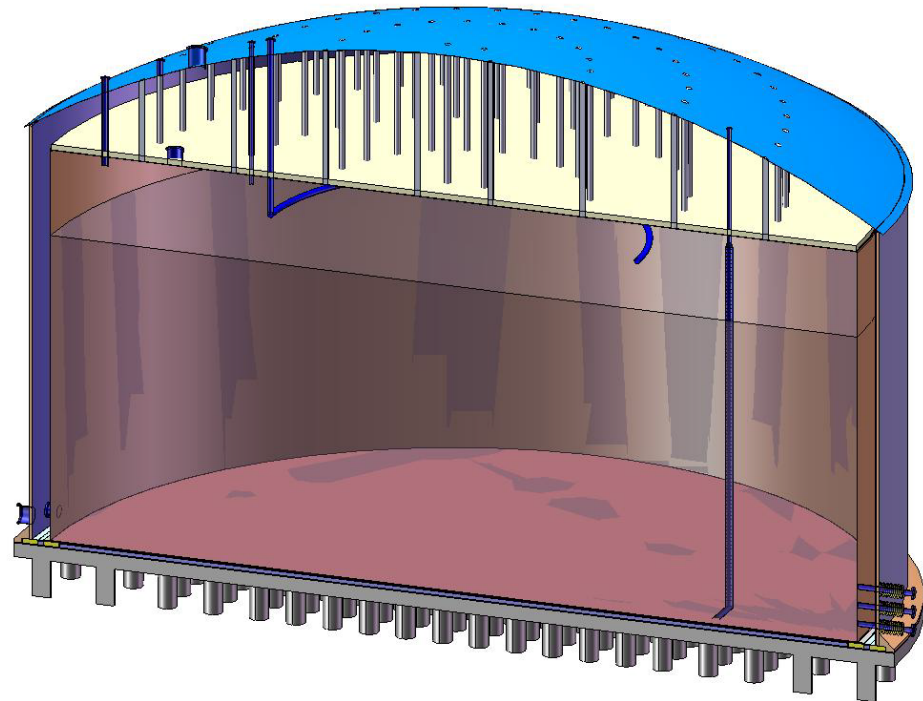


HEDCO Technology Division – Cryogenic Storage Tanks

HEDCO has succeeded to achieve the complete know-how and specialties of engineering , material supply , fabrication and construction of cryogenic storage tanks (up to -110 deg. C).

This temperature range covers the following services:

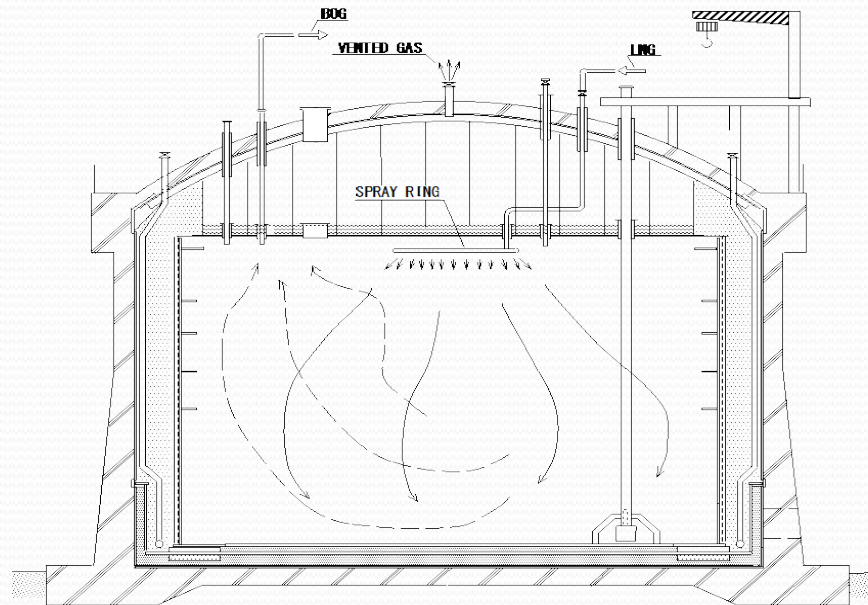
- **Butane** (-0.5 deg. C)
- **Ammonia** (-33 deg. C)
- **Propane** (-42 deg. C)
- **Propylene** (-47 deg. C)
- **Ethane** (-88 deg. C)
- **Ethylene** (-103 deg. C)



HEDCO Technology Division – Cryogenic Storage Tanks – Cont'd.

The engineering scope of work for cryogenic Tanks will be :

- Mechanical design
- Thermal design
- Boil off rate
- Insulation
- Foundation
- Frost heave
- Roll over
- Cool down
- In tank pump



HEDCO is the only Iranian company who has been registered in National Petrochemical Company - **NPC Vendor List** for Cryogenic Storage Tanks (Rev.: 6, Date: 2017, Page:15, under item 1.2.5. Cryogenic Tanks)

HEDCO Technology Division – Ammonia Reformer

HEDCO acts as the vendor for the ammonia primary reformer which is a complex Fabrication on Site, Process-Mechanical Package.

The company's scope of work in this respect will be:

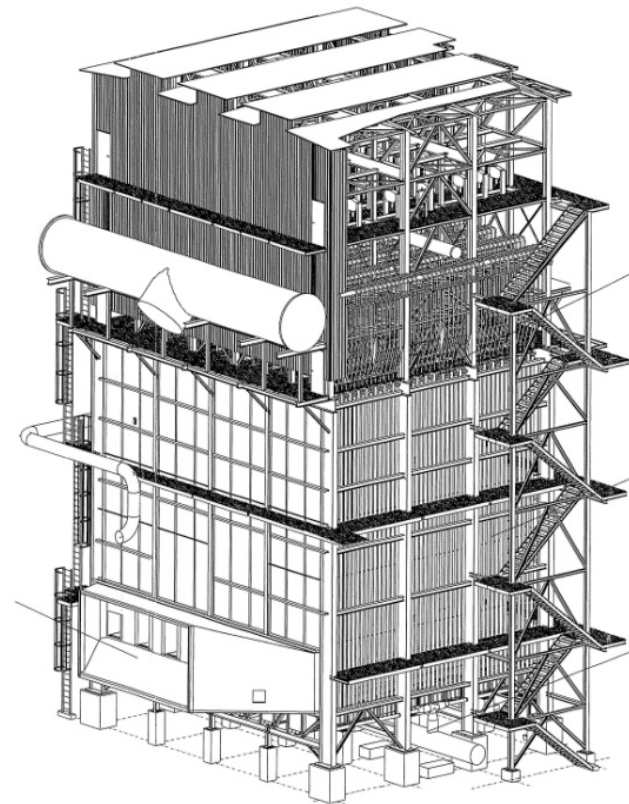
❖ Design

- Thermal and Mechanical calculation, design and engineering
- Preparation of P&ID and PFD
- Preparation of all necessary documents, drawings , procedures and specification
- Thermal guarantee
- Performance Guarantee
- Site supervision for erection and assistance
- for start up and commissioning

❖ Revamping

❖ Debottlenecking

❖ Construction supervision



HEDCO Technology Division – Fired heaters

- The heaters are being designed by the our home made software and are verified by FRNC-5PC which is a Simulation Software specially made for design of fired heaters and is used for majority of heater Vendors.
- The heaters will be supplied prefabricated as maximum as possible in shop , however , Based on final dimensions and transportation limitation the heaters may be delivered in multi-pieces to be assembled at site or final assembly may be done at shop for final bolting of mating flanges at site.



HEDCO Technology Division – Desalters

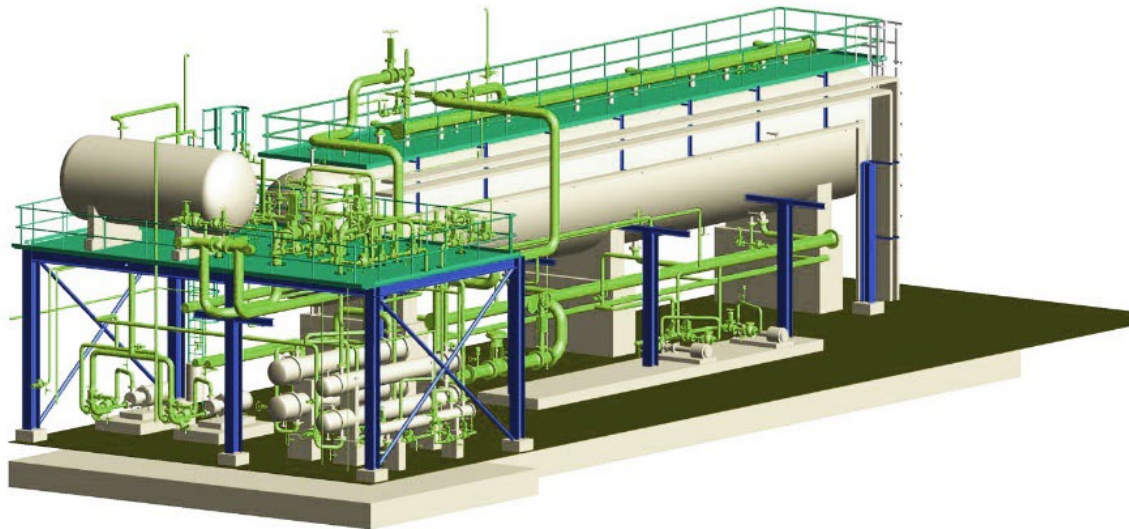
Desalination units are the most important oil refining and refining units.

Desalination in the oil industry is carried out in two stages:

Stage 1: Desalination of crude oil in production fields and before transfer to refinery.

Stage 2: Desalination in the refinery, in the first stage in the refining of crude oil.

HEDCO has succeeded to develop the knowledge and localize the design, engineering and construction of Electrostatic type Desalting units.



HEDCO Technology Division – Scrubbers

Scrubbers are used for separating the air from gas, dust and other particles.

Scrubbers are mainly used to prevent the harmful gases and particles to spread in the environment..

Scrubbers are two type i.e. wet and dry types. Wet type scrubbers are operating by use of water (or in special cases other liquids) for separating/extracting the dust from air.





HEDCO Technology Division – Vapour Recovery unit (VRU)

During loading or unloading of oil tanks, the release of a mixture of air and oil vapor causes three major damages, which are:

The possibility of fire, environmental damage due to the release of hydrocarbon vapors and the loss of valuable vapours. For this reason, the collection and recycling of these vapors is considered.

VRU Types:

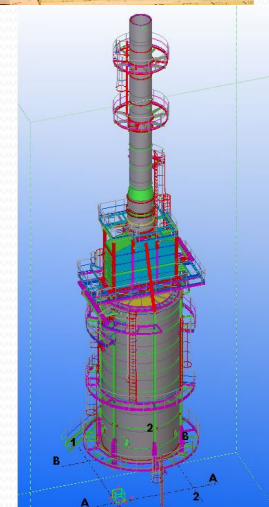
- Adsorption technology on activated carbon
- Refrigeration method, which is efficient for large volumes



HEDCO in NIOC Vendor List

Hedco Has been registered in the Common Resource System of National Iranian Oil Company (NIOC) as Designer and Manufacturer for the following products:

- Cryogenic Storage Tanks
- Catalytic Reformers
- Process Fired Heaters
- Desalter Packages
- Wet Scrubbers
- Vapour Recovery Unit (VRU)



HEDCO Technology Division – Sulphur Technologies

Target

Removal of Acidic Components (H_2S , CO_2 , Mercaptans, COS ,...)

Total Solution

- ❖ Natural Gas , Sour Gas , sweet Gas , Flare Gas
- ❖ Liquid H/C's, Oil Crude & Refined (LPG, gasoline, kerosene, ...)
- ❖ Petrochemical

Engineering Services

- Conceptual Study
- Process Line up
- Process Simulation
- PDP – Process Design Package
- Feasibility study , CAPEX & OPEX , ...
- Basic Engineering

HEDCO Technology Division – Sulphur Technology

Available Technologies

- Claus-based Sulphur recovery technologies
- Tail Gas Treating unit(TGTU)
- Hydrocracking and Hydrodesulphurization technologies
- Amine-based adsorption technologies (sour gas treating)
- Tail gas treating technologies
- Sulphur degasser technologies
- Merox-type treating technologies
- Caustic Based Mercaptan Removal Technology
- Seawater Flue Gas Desulphurization technologies

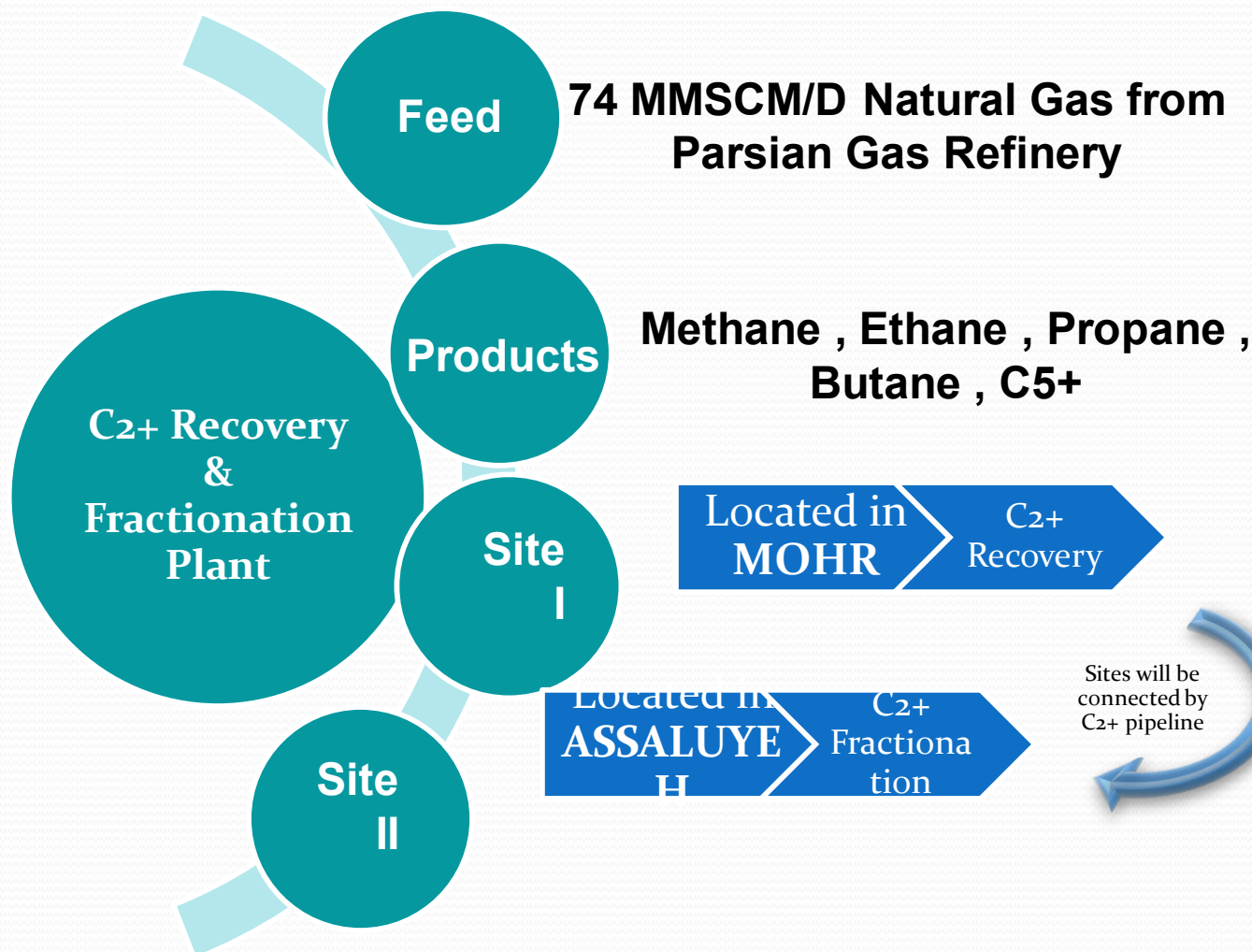
HEDCO Technology Division – Sulphur Technologies

Sample Gas Treating Plant

- Acid Gas Removal (AGRU) >> **CO₂/H₂S/R-SH/COS**
- Sulphur Recovery Unit (SRU) – CLAUS Technology
- Tail Gas Treating Unit (TGTU)
- Sulphur Degasser (S Degasser)
- Molecular Sieve Unit (MSU) or Dehydration Molecular Sieve Unit (DMS) >> **H₂O/R-SH/COS**
- Mercury Removal Unit (MRU) >> Hg
- LPG/ Condensate Treating Unit (Liquid Treating By Amin/ Caustic)
>> **H₂S/R-SH/COS**

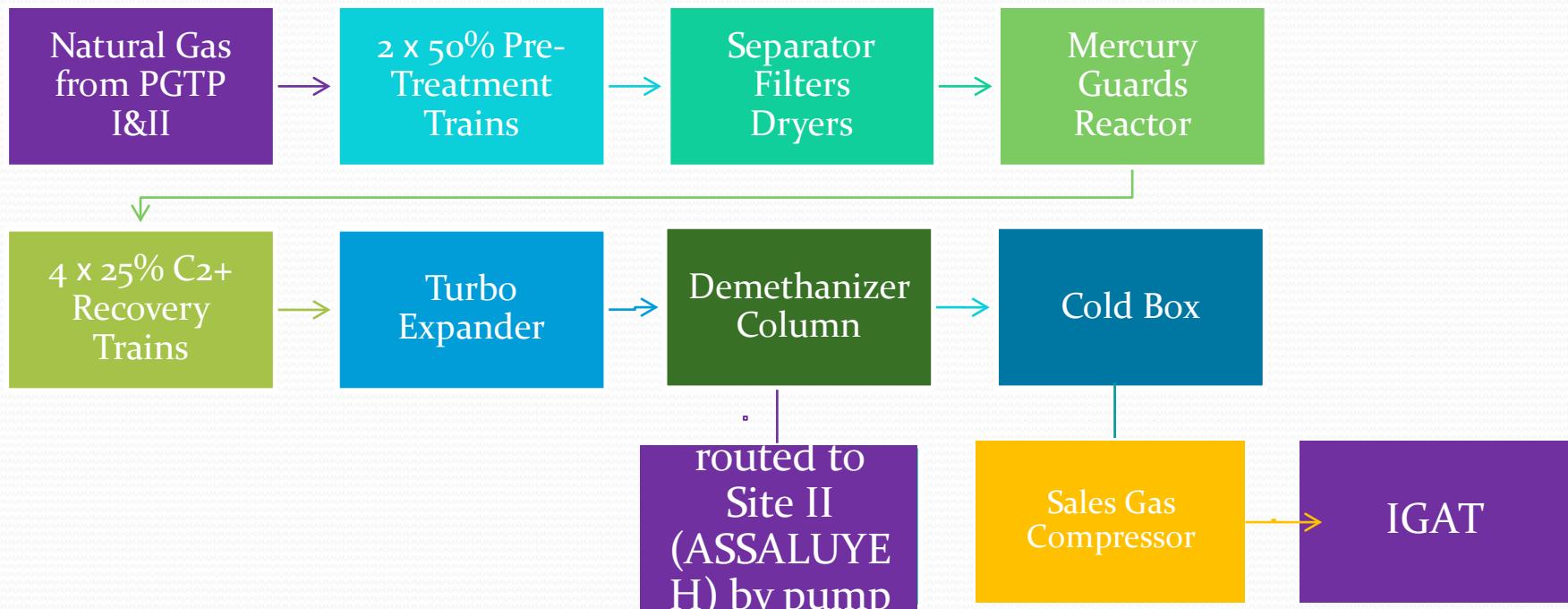


HEDCO Gas Refining Experience – Parsian C2+ Recovery



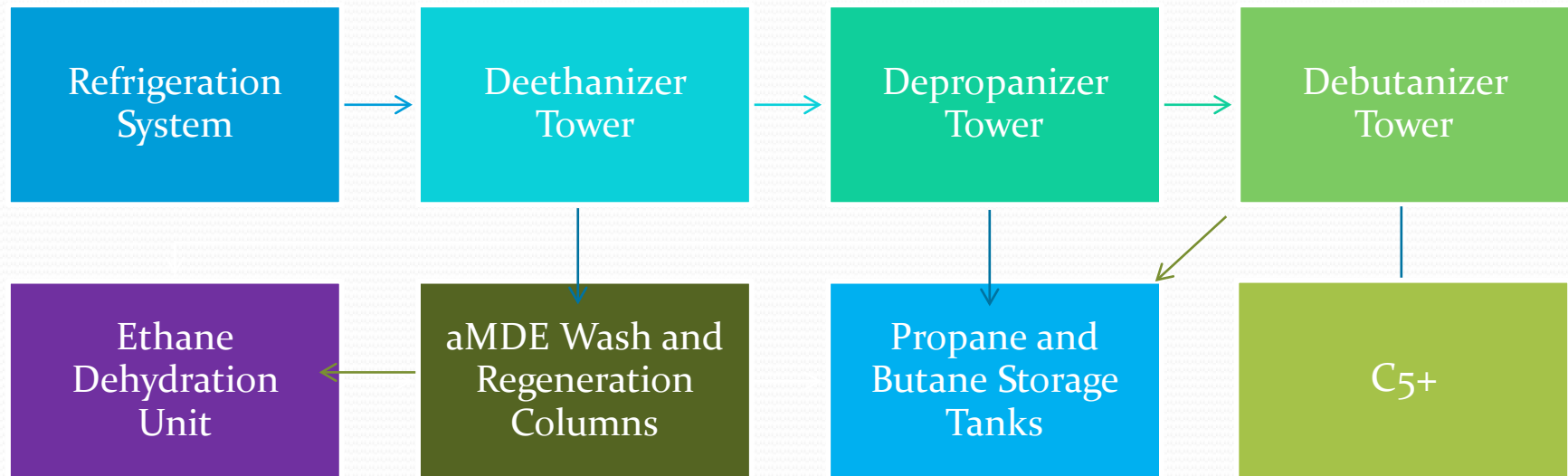
HEDCO Gas Refinery Experience – C2+ Recovery

Parsian Mohr Process Block Diagram



HEDCO Gas Refinery Experience – C2+ Recovery

Parsian Assaluyeh Process Block Diagram



HEDCO Strategic Partners

HAMPA Engineering Corporation

HAMPA Engineering Corporation, the parent company of HEDCO, is a first grade Construction Company in the field of Oil, Gas and Petrochemical Industries certified as **Grade 1 Construction company** by the Iran MPO. HEDCO as an Engineering company in joint with HAMPA is able to do the mega scale EPC projects.



Hampa Engineering Corporation



HEDCO Strategic Partners

FEPCO (Fankavan Energy Pooya Company)

In order to expand its scope of services to clients, HEDCO has established FEPCO its sister company to act as a package integrator for Skid and Site mounted) consisting of rotating and static equipment, piping, instrumentation and electrical equipment and components.

- Catalytic Steam Reformers
- Process Fired Heaters and Incinerators
- Hot Insulation (Engineering & Supply)
- Cryogenic Storage Tanks
- Special Insulating Material
- Hydrogen Units (Production, Purification & Recovery)
- Hydrogen Recovery and Purification Units
- Crude Oil Desalting Package
- Ethylene Glycol Gas Dehydration Units
- Vapor Recovery Units



HEDCO Strategic Partners

SARIR (International Engineering and Trading Company)

In order to play a strong role in the global market, HEDCO has established SARIR, its Turkish sister company, which is active in the same field of activities as HEDCO , concentrating on the procurement activities of EPC projects as well as international marketing of HEDCO Technologies for Catalytic Reformers, Cryogenic tanks , etc.





Thank You

Tel: (+98) 71- 32136000 (20 lines) **Web site:** www.hedcoint.com
(+98) 71- 32136522
Fax: (+98) 71- 32136527 **E-mail:** info@hedcoint.com