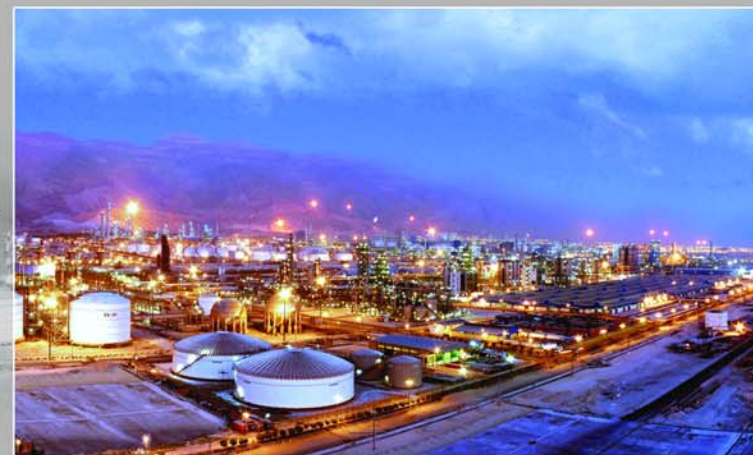


We Have the SOLUTION...



5 DECADES OF EXPERIENCE IN OIL, GAS  
AND PETROCHEMICAL INDUSTRIES



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## Petrochemical Projects

## Oil Industries Projects

## Gas Industries Projects

## Pipeline Projects

### We Have Engineered and Managed:

- 
- 430 MMSCMD of Gas Production & Treatment Facilities
  - 102 MMSCMD of Gas Separation Facilities
  - 1,300,000 BPSD of Crude Oil / Condensate Production Facilities
  - 9,415,000 TPA of Ethylene Plants
  - 3,590,000 TPA of Polyolefins (PE & PP) Plants
  - 400,000 TPA Polymer & Rubbers Plants
  - 2,610,000 TPA Various Petrochemical Products
  - Over 5,000 km of Oil/ Gas/ Products/ Ethylene Pipelines



125,000,000 NCM/D Fajr-e jam (Kangan) Gas Refinery (Nar & Kangan Gas Fields)



NARGAN, a privately owned company, is an engineering, procurement, construction, and project management company with over four decades of experience in the design and development of industrial projects, particularly in oil, gas and petrochemical fields. NARGAN has made major contributions to the development of energy industries in Iran at various capacities as a consultant and/or EPC Contractor during this period. NARGAN Company was established in 1973 under the name of BORNA Consulting Engineers Company.

NARGAN provides comprehensive services for the development of industrial projects, from the initial concept of feasibility studies to the performance of basic design, front-end and detail engineering, followed by procurement, supply services, field engineering, construction supervision and project management.

NARGAN's scope of work in petrochemical industry covers a wide range, from Ethylene, polyolefin and polymer production, to Ethanolamine, Phthalic Anhydride, and chemical fertilisers. The company has extensive experience in engineering and execution of oil refineries, gas treatment facilities, Ethane recovery and fractionation plants in Iran, as well.

Today, NARGAN is well known in the region as an important company in undertaking big EP / EPC projects, with over 300 completed projects and the work capacity of 2,000,000 Man-Hours per year. By continuous improvement of its methods and expanding its capabilities, NARGAN is aiming to mark its most powerful presence in oil, gas and petrochemical market during its fifth decade (2013-2023) of existence.

NARGAN has utilised and assimilated much of the know-how and professional expertise of many internationally renowned companies such as:

Axens IFP Group Technologies, Balfours, Basell Polyolefins, BP, Chiyoda Corporation, Didier Engineering, Eurotecnica, Foster Wheeler, Haldor Topsøe, Iran Pan-American Oil Co. (IPAC), John Brown Deutsche Engineering, KBC Process Technology, Kinetics Technology (KT), Klöckner Stadler Hurter (KSH), Linde Group, Lurgi, Lyondellbasell, Nexant, Pipeline Technologies Inc., Prosernat IFP Group Technologies, Rollechim Impianti, Snamprogetti, Société Irano-Italienne des Pétroles (SIRIP), Société Française de Pétroles d'Iran (SOFIRAN), Stamicarbon, Technip (Benelux, France, Italy, Germany, etc.), Tecnimont, The Shawinigan Engineering, Total, Uhde (Thyssen Krupp Industrial Solution), Versalis and many more.



More than 70% of the Iranian Ethylene production capacity is achieved through **NARGAN** implemented Plants.

## Expansion Projects:

**306,000 TPA Ethylene Plant**  
Arak Petrochemical Complex  
247,000 to 306,000 TPA

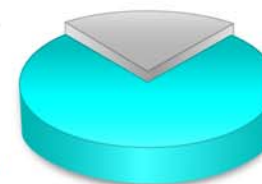
**650,000 TPA Ethylene Plant**  
5<sup>th</sup> Olefin Complex (Morvarid PC) - Assaluyeh  
500,000 to 650,000 TPA

**1,321,000 TPA Ethylene & 305,000 TPA Propylene Plant** (10<sup>th</sup> Olefin Complex)  
*One of the Largest Cracking Plant in the World*  
*This Plant delivers the largest output of Ethylene to-date in the world and is the only large capacity steam-cracker using both gas and liquid as feedstocks to produce Ethylene and Propylene.*  
*NARGAN has utilised Technip's know-how and technical support in Olefin Projects.*

**NARGAN Share in Iran Ethylene Plants**  
(In Operation & Under Construction)

Others:  
3,447,000 TPA (< 30%)

**NARGAN:**  
**9,415,000 TPA (> 70%)**



**1,321,000 TPA Ethylene & 305,000 TPA Propylene Plant**  
10<sup>th</sup> Olefin Complex (Jam PC) - Assaluyeh

**1,050,000 TPA Ethylene Plant**  
9<sup>th</sup> Olefin Complex (Aryasol Polymer Co.) - Assaluyeh

**500,000 TPA Ethylene Plant**  
5<sup>th</sup> Olefin Complex (Morvarid PC) - Assaluyeh

**2 x 1,000,000 TPA Ethylene Plants**  
11<sup>th</sup> Olefin Complex (Kavian PC) - Assaluyeh

**1,000,000 TPA Ethylene Plant**  
8<sup>th</sup> Olefin Complex (Gachsaran PC)

**1,000,000 TPA Ethylene Plant**  
16<sup>th</sup> Olefin Complex (Bushehr PC) - Assaluyeh

**1,000,000 TPA Ethylene Plant**  
14<sup>th</sup> Olefin Complex (Firouzabad PC) - Assaluyeh

**458,000 TPA Ethylene & 124,000 TPA Propylene Plant**  
13<sup>th</sup> Olefin Complex (Ilam PC)

**639,000 TPA Ethylene & 143,000 TPA Propylene Plant**  
17<sup>th</sup> Olefin Complex (Dehloran PC)

NARGAN  
ACHIEVEMENT:

**9,415,000 TPA**  
**of Ethylene Plants**



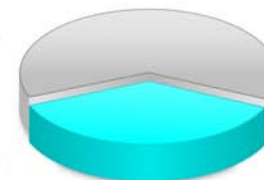


## Polyethylene Plants

**NARGAN Share in Iran Polyethylene Plants**  
(In Operation & Under Construction)

Others:  
3,075,000 TPA (< 58%)

**NARGAN:**  
2,675,000 TPA (> 42%)



300,000 TPA Swing LLDPE/ HDPE Plant (10<sup>th</sup> Olefin Complex)



300,000 TPA LDPE Plant (9<sup>th</sup> Olefin Complex)

### 300,000 TPA LDPE Plant

9<sup>th</sup> Olefin Complex (Aryasol Polymer Co.)  
Assaluyeh

### 300,000 TPA LDPE Plant

Kordestan Polyethylene Plant – Sanandaj

### 300,000 TPA LDPE Plant

Andimeshk Polyethylene Plant

### 300,000 TPA Swing LLDPE/ HDPE Plant

10<sup>th</sup> Olefin Complex (Jam PC) - Assaluyeh

### 300,000 TPA Swing LLDPE/ HDPE Plant

Lorestan Polyethylene Plant – Khoramabad

### 300,000 TPA Swing LLDPE/ HDPE Plant

Mahabad Polyethylene Plant

### 300,000 TPA HDPE Plant

Dehdasht Polyethylene Plant

### 500,000 TPA HDPE Plant

12<sup>th</sup> Olefin Complex (Kian PC)  
Assaluyeh

### 75,000 TPA LLDPE Plant

Arak Petrochemical Complex  
(Expansion Project; 60,000 to 75,000 TPA)

NARGAN  
ACHIEVEMENT:

**2,675,000 TPA**  
**of Polyethylene Plants**



## Polypropylene Plants

More than 80% of all Polypropylene production capacity in Iran has been established by **NARGAN** making us the absolute authority in this field.

**NARGAN** Share in Iranian Polypropylene Plants  
(In Operation)

Others:  
180,000 TPA (< 20%)

**NARGAN:**  
915,000 TPA (> 80%)



300,000 TPA Polypropylene (PP) Plant (7<sup>th</sup> Olefin Complex)



300,000 TPA Polypropylene (PP) Plant (10<sup>th</sup> Olefin Complex)



**300,000 TPA PP Plant**  
7<sup>th</sup> Olefin Complex (Maroun PC)  
Mahshahr

**300,000 TPA PP Plant**  
10<sup>th</sup> Olefin Complex (Jam PC) – Assaluyeh

**160,000 TPA PP Plant**  
6<sup>th</sup> Olefin Complex (Navidzar Chimie Plant)  
Mahshahr

**80,000 TPA PP Plant**  
Tabriz Petrochemical Complex  
(Relocation Project - Polynar Plant)

**75,000 TPA PP Plant**  
Arak Petrochemical Complex  
(Expansion Project; 50,000 to 75,000 TPA)

NARGAN  
ACHIEVEMENT:

**915,000 TPA**  
of Polypropylene Plants



## Various Petrochemical Plants

### 100,000 TPA Butene-1 Plant

10<sup>th</sup> Olefin Complex (Jam PC) – Assaluyeh

### 2 x 30,000 TPA Butene-1 Plants

Lorestan & Mahabad Polyethylene Plants

### Integrated 300,000 TPA Ammonia &

1,000,000 TPA Methanol Plants – Assaluyeh

### 200,000 TPA Acrylonitrile Butadiene Styrene (ABS) and 60,000 TPA Rubbers Plants

Styrene Park – Assaluyeh

### 137,000 TPA Emulsion Styrene

Butadiene Rubber (ESBR) Plant

Styrene Park – Assaluyeh

### Utility Plants and Offsite Facilities

Mokran Petrochemical Park (Badre Shargh PC)

Chabahar

### Managment Consultancy Services for

1,650,000 TPA Methanol Plant

Mokran Petrochemical Park (Chabahar)

### 40,000 TPA Phthalic Anhydride (PA) Plant

Esfahan Petrochemical Complex

### 20,000 TPA Crystal Melamine Plant

Khorassan Petrochemical Complex – Bojnourd

### 30,000 TPA Ethanolamine Plant

Arak Petrochemical Complex

### 240,000 TPA Di-Ammonium Phosphate (DAP) Plant

Razi Petrochemical Complex – Mahshahr

### 180,000 TPA Para Xylene Production Plant

Bandar Imam Petrochemical Complex (BIPC)

Mahshahr

### 177,000 TPA Pyrolysis Gasoline Hydrogenation (PGH) Plant

Arak Petrochemical Complex

(Expansion Project; 105,000 to 177,000 TPA)

### Expansion of Tabriz, Khorassan & Badre Shargh Petrochemical Complexes

6<sup>th</sup> Olefin Complex (Mahshahr)

NARGAN  
ACHIEVEMENT:

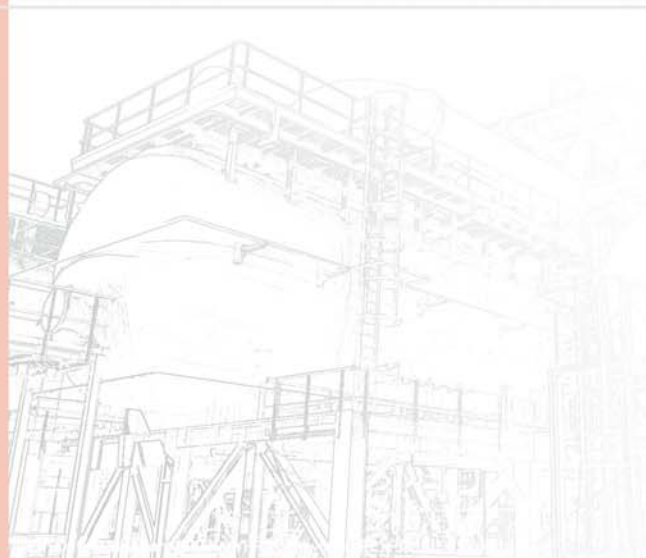
400,000 TPA Polymers  
and  
2,610,000 TPA Various  
Petrochemical Products







### Kermanshah Anahita Petro-Refinery



### Esfahan New Oil Refinery

Diesel Hydrotreating Unit (DHT)  
Residue Hydrotreating Unit (RHU)  
Residue Fluid Catalytic Cracking (RFCC) LPG Merox Unit  
RFCC Naphtha Hydrotreating Unit (Prime G+)  
Sulphur Recovery, Tail Gas Treating & Solidification Units (SRU, TGTU & SSU)  
H2 Production Unit (HPU)

### Tehran Oil Refinery

(Expansion & Upgrading Project)

LPG (C3 / C4) Recovery Unit  
Sulphur Recovery & Tail Gas Treating Units (SRU & TGTU)  
Amine Treating Unit (ATU)  
Sour Water Stripping Unit (SWS)  
H2 Production Unit (HPU)  
Utility Plants & Offsite Facilities

### Arak Shazand Oil Refinery

(Expansion & Upgrading Project)

LPG (C3 / C4) Merox Unit  
Propylene Recovery Unit (PRU)  
Sulphur Recovery & Tail Gas Treating Units (SRU & TGTU)  
Amine Treating Unit (ATU)  
Sour Water Stripping Unit (SWS)  
Utility Plants & Offsite Facilities

### Tabriz Shahryar Oil Refinery

Crude Distillation Units (CDU & VDU)  
Liquefied Petroleum Gas (LPG) Treating Unit  
LPG (C3 / C4) Recovery Unit  
Propylene Recovery Unit (PRU)  
Naphtha Hydrotreating Unit (NHT)  
Isomerisation Unit  
Continuous Catalytic Reforming Unit (CCR)  
Fluid Catalytic Cracking Unit (FCC)  
Diesel Hydrotreating Unit (DHT)  
Vacuum Diesel (Gas Oil) Hydrotreating Unit (VGO/ VHDS)  
Sulphur Recovery, Tail Gas Treating & Solidification Units (SRU, TGTU & SSU)  
Amine Treating Unit (ATU)  
Sour Water Stripping Unit (SWS)  
H2 Production Unit (HPU)  
Utility Plants & Offsite Facilities

### Kermanshah Oil Refinery

Vacuum Distillation Unit (VDU; Revamp)  
Visbreaker Unit (VBU; New)

### Bandar Abbas Oil Refinery (8<sup>th</sup> Refinery)

LPG (C3 / C4) Recovery Units  
Kerosene Hydrotreating Unit (KHT)  
Amine Treating Unit (ATU)  
Sour Water Stripping Unit (SWS)

### Abadan Oil Refinery

(Reconstruction & Revamping Project)

Crude Distillation Unit (Revamp)  
Vacuum Distillation Unit (New)  
Visbreaker Unit (New)  
Utility Plants & Offsite Facilities

### Siraf Condensate Refineries Park

Condensate Distillation Unit (CDU)  
Liquefied Petroleum Gas (LPG) Treating Unit  
LPG (C3 / C4) Recovery Unit  
Naphtha Hydrotreating Unit (NHT)  
Middle Distillate Hydrotreating Unit (MDH)  
Sulphur Recovery, Tail Gas Treatment & Solidification Units (SRU, TGTU & SSU)  
Amine Treating Unit (ATU)  
Sour Water Stripping Unit (SWS)  
H2 Production Unit (HPU)  
Utility Plants & Offsite Facilities

### FS for Expansion of Tehran Oil Refinery



NARGAN  
ACHIEVEMENT:

**1,300,000 BPSD**  
of Crude Oil / Condensate  
Production Facilities

NARGAN  
ACHIEVEMENT:

**178,000 BPSD  
of Crude Oil  
Stabilization**

Sirri Oil Field Development (Persian Gulf)



Bahregansar Oil Facilities (Persian Gulf)

## Fields Development (Surface Facilities) and Upstream Onshore Facilities

### Jofeir Oil Field Development

25,000 BPSD Crude Oil  
(Khuzestan Province)

### Sirri "C, D & E" Oil Fields Development

103,000 BPSD Crude Oil (2 Projects)  
(Persian Gulf)

### Zagros Oil Fields Development

50,000 BPSD Crude Oil  
(South-West of Iran)

## Lube / Base Oil Plants

### Sepahan Dewaxing (MEK) and White / Lube Oil Plants

(Sepahan Oil Refinery - Esfahan)

### Caspian Base Oil Plant

Bandar Abbas Oil Refinery

### Lube Oil Plant

Tehran Oil Refinery

## Other Oil Projects

### Bahregansar Onshore Facilities

(Reconstruction & Renovation Project)  
Coast of Persian Gulf

### Various Production Units and Desalting Plants

Well Heads, Flow & Transmission Lines,  
Centralised Units, Utilities & Offsite Facilities

(South Oil Fields:

Bibi-hakimiyeh, Gachsaran, Haft-gel, Karanj,  
Labsefid, Naftsefid, Nargessi, Parsi, Pazanan  
Ragsefid, etc.)



## Gas Separation Plants

**NARGAN** has extensive experience in engineering and execution of C2+ cuts recovery and fractionation plants in Iran



**77,000,000 SCM/D C2+ Recovery & Fractionation Plant** (9<sup>th</sup> Olefin Complex)  
Together with 1,612,000 TPA of Ethane and 1,641,000 TPA of Propane & heavier products, which is the largest C2 Recovery & Fractionation Plant in Iran.

NARGAN has utilised Linde's know-how and technical support in Ethane (C2) / Propane (C3) Recovery & Fractionation Projects.

### **C2+ Recovery & Fractionation Plant**

77,000,000 SCM/D of Gas Separation Facilities:

1,612,000 TPA Ethane (C2),  
980,000 TPA Propane (C3),  
566,000 TPA Butane (C4)  
& 95,000 TPA C5+

9<sup>th</sup> Olefin Complex (Pars PC) - Assaluyeh

### **C2+ Recovery Plant**

1,909,000 TPA C2+

7<sup>th</sup> Olefin Complex (Maroun PC) - Ahwaz

### **C2 / C3 Recovery Plant (from Fuel Gas)**

173,000 TPA Ethane (C2),  
50,000 TPA Propane (C3)  
& 44,000 TPA Fuel Gas

Bandar Imam Petrochemical Complex (BIPC)  
Mahshahr

NARGAN  
ACHIEVEMENT:

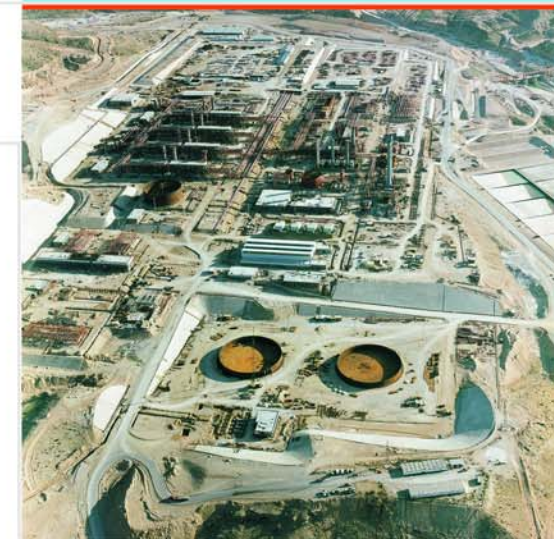
**102,000,000 SCM/D  
of Gas Separation  
Facilities**





## Gas Refineries and Gathering System

125,000,000 NCM/D Fajr-e Jam (Kangan) Gas Refinery (Nar, Kangan & south Pars Gas Fields)



Fajr-e Jam (Kangan) Gas Refinery

### Fajr-e Jam (Kangan) Gas Refinery

125 MMNCMD  
Bushehr Province

### Sarkhoun II Gas Refinery

14.4 MMNCMD  
Hormozgan Province

### Khangiran Gas Gathering Facilities

12.7 MMNCMD  
Sarakh Gas Field Development Plan (Phase 1)  
Khorassan Province

### Masjed Soleiman Gas Treatment Plant

(Utility Plants & Offsite Facilities)  
Khuzestan Province

### Ramshir Gas Injection Facilities

(2 Projects – Khuzestan Province)

### South Gashoy Gas Refinery

14.2 MMSCMD  
Hormozgan Province  
(Management Consultancy Services)

### NGL 900, NGL 1000, NGL 1800 & NGL 2400

Production Facilities (Natural Gas Liquids)  
South Oil Fields

NARGAN  
ACHIEVEMENT:

166,000,000 NCM/D  
of Treated Gas



# South Pars Gas Field Development

## NARGAN ACHIEVEMENT:

**281 MMSCMD Treated Gas,  
4,000,000 TPA Ethane,  
4,350,000 TPA LPG,  
440,000 BPSD Condensate and  
2,350 TPD Sulphur**

### Onshore Gas Processing Facilities

#### Phase 12 (EPC 3)

81 MMSCDM Treated Gas,  
120,000 BPSD Heavy Condensate  
& 750 TPD Sulphur

#### Phase 13

50 MMSCDM Treated Gas,  
1,000,000 TPA Ethane (C2),  
1,100,000 TPA LPG (Propane & Butane),  
80,000 BPSD Condensate  
& 400 TPD Sulphur

#### Phases 15 & 16

50 MMSCDM Treated Gas,  
1,000,000 TPA Ethane (C2),  
1,050,000 TPA LPG (Propane & Butane),  
80,000 BPSD Condensate  
& 400 TPD Sulphur

#### Phase 19

50 MMSCDM Treated Gas,  
1,000,000 TPA Ethane (C2),  
1,100,000 TPA LPG (Propane & Butane),  
77,000 BPSD Condensate  
& 400 TPD Sulphur

#### Phases 22, 23 & 24

50 MMSCDM Treated Gas,  
1,000,000 TPA Ethane (C2),  
1,100,000 TPA LPG (Propane & Butane),  
77,000 BPSD Condensate  
& 400 TPD Sulphur

South Pars Gas Field Development; Phase 12



South Pars Gas Field Development; Phase 12

#### Process Plants:

Gas Sweetening Unit  
Gas Dehydration Unit  
Export Gas Compression Unit  
NGL Fractionation Unit  
Sulphur Recovery Unit  
Propane Refrigeration Unit  
Propane & Butane Treatment Units  
Ethane Decarbonation Unit

#### Utility Plants & Offsite Facilities:

Steam Generation & Distribution  
Instrument Air System  
Nitrogen Generation  
Sea Water Intake  
Sea Water Desalination  
Polishing Water (Demineralization)  
Potable Water  
Effluent Treatment Unit  
Fire Fighting  
Cooling Water System  
Flare System  
Drain System  
Burn Pit  
Sulphur Solidification Unit  
Storages

C3, C4 & Condensate Transfer Pipelines



# Transportation & Pipeline Systems

NARGAN  
ACHIEVEMENT:

Over 5,000 km Pipeline  
and Associated Pumping  
& Compressor



## Oil / Products Pipelines

### 42" / 48" Crude Oil Export Pipeline

Iran Crude Oil Trunkline  
(Ahwaz to Genaveh)

### 36" Crude Oil Transfer Pipeline

Azadegan Oil Field Development  
(Ahwaz to Bahregansar)

### 26" Oil Products Transfer Pipeline

Oil Products Transfer Pipeline  
(Bandar Abbas Refinery to Rafsanjan Terminal)

### 42" Crude Oil Transfer Pipeline

Moharam Project (South of Iran)

## Gas Condensate Pipelines

### 16" Gas Condensate Transfer Pipeline

Assaluyeh to Shiraz Pars Refinery

### 8" Gas Condensate Transfer Pipeline

Dalan to Shiraz Pars Refinery

## Gas Pipelines

### 36" / 42" / 48" Gas Trunkline

Pars / Aghar / Dalan (South of Iran)

### 42" Gas Transfer Pipeline

(NGL 1000 to Bid Boland Gas Refinery)

## Feed / Products Petrochemical Pipelines

### West Ethylene Transfer Pipeline

3,000,000 TPA Ethylene  
(Assaluyeh to Tabriz Petrochemical Complex)

### Liquified Ethylene Transfer Pipeline

5<sup>th</sup> & 11<sup>th</sup> Olefin Complexes - Assaluyeh

### C2 Recovery Pipeline

Assaluyeh

### C3+ Export Pipeline

9<sup>th</sup> Olefin Complex (Aryasol Polymer Co.)  
Assaluyeh

### 8" Butane Transfer Pipeline

10<sup>th</sup> Olefin Complex (Jam PC) - Assaluyeh

### Ethane (C2) Feed Pipeline

10<sup>th</sup> Olefin Complex (Jam PC) - Assaluyeh

### 4<sup>th</sup> Aromatic Feed Pipeline

Borzouyeh (Nouri) Petrochemical Complex  
Assaluyeh

