BRIEF SUMMARY OF PROPOSED PROJECT

60 KTPA POLYPROPYLENE UNIT AT GAIL (INDIA) LIMITED, PATA, UTTAR PRADESH

GAIL (India) limited, is operating successfully an integrated gas based Petrochemical complex at Pata (U.P) since March 1999. The petrochemical complex is the only petrochemical plant located in north-central India. This complex recovers ethane-propane (C2/C3) from natural gas, after sweetening, (CO_2 removal), coming from Vijaypur through HVJ Pipeline for producing Petrochemicals. The ethane-propane recovered from Gas processing unit is cracked in Gas cracker unit to produce ethylene and propylene. The petrochemical complex has an installed capacity to produce 410,000 tonnes of polyethylene per year and 10,000 tonnes of butene-1 per year. Ethylene is converted to final products — HDPE (High Density Poly Ethylene) and LLDPE (Linear Low Density Polyethylene) and Butene-1. Polyethylene is manufactured under both the G-Lex and G-Lene trade names in numerous grades, including injection moldings, blow moldings, raffia, monofilament, pipe and film.

The Pata Petrochemical Complex consists of following units:

a) Gas Sweetening unit
b) C2/C3 unit
c) LPG Recovery unit
d) Gas Cracker unit
e) HDPE unit
f) LLDPE/HDPE Swing unit
g) Butene-1 unit
h) C4 Hydrogenation unit
i) Utilities, Offsites, storages and ETP

In Petrochemical complex -1 , Gas Cracker unit has been designed for 400,000 TPA ethylene production with 5 furnaces (4 Operating & 1 Standby), Originally 3 operating and 1 standby furnace were installed which provided a capacity of 300,000 TPA ethylene. This ethylene is consumed in the downstream units for production of following products:

a) HDPE unit, 100,000 TPA
b) LLDPE/HDPE Swing unit, 160,000 TPA (debottlenecked to 210,000 TPA)
c) Butene-1, 10,000 TPA

With increase in gas availability to 20.1 MMSCMD a new Petrochemical complex-2 was considered with a new Gas Sweetening Unit, followed by a Ethane Propane Recovery Unit which extracts C2C3 at GAIL Vijaypur same of which is extracted by Integrated GPU Plant at GAIL Pata to be served as feed for a new Cracker plant of capacity at 450,000 TPA ethylene Production and corresponding production of polyethylene (LLDPE/HDPE) of 400 KTPA and 20 KTPA of Butene-1. The propylene produced in the Gas crackers (design ~49 KTA) at present is sold as a commodity to various customers.

GAIL is planning to utilize this propylene to set up a 60 KTPA Polypropylene unit in the existing complex at Pata. The proposed facility will be set-up along with the existing facilities at Pata.

Project Configuration

GAIL (India) Limited has a petrochemical complex at Pata for production of linear low density and high density polyethylene from ethylene produced from C2/C3 (ethane/Propane) cracking. While in the process, the cracker is also producing around 50 KTPA of Polymer grade Propylene which is at present sold locally as final product. On the basis of the same, M/s GAIL is exploring the possibility of setting up 60 KTPA Polypropylene unit at Pata utilizing the Propylene produced at site.

Plant Capacity

Design Capacity: 60 000'Tons / annum of Polypropylene production.
Normal Operating Capacity: 49 000'Tons / annum of Polypropylene production.
Note: Availability of Polymer grade Propylene for producing Polypropylene at Pata is only 49 KTPA.

Product Profile

The desired product profile for the Project is indicated below:
Petrochemical products – Polypropylene shall be industrial/polymer grade.
The plant shall be capable of producing following grades of Polypropylene.

Table 1.0: Product Distribution Share

S. No.	End Use	% Share
1	Homo	75
2	Impact	20
3	Random	05

Basis of Propylene Storage / Transportation

Propylene receipt will be through existing Propylene storage. No additional propylene storage is envisaged.

Basis of Storage and dispatch

The basis for storage of Raw Material, Products and Other storages conceived for study has been tabulated below.

Table 1.1: Offsite, Raw Material/ Product and Other Storages

Name	State	Remarks
A. Raw Material		
Propylene	Liquid	Existing Storage
Ethylene	Liquid	Existing Storage
B. Intermediate Products		
NIL		
C. Finished Products		
Polypropylene	Solid	21 days

Note: All products shall be dispatched through Roadways.