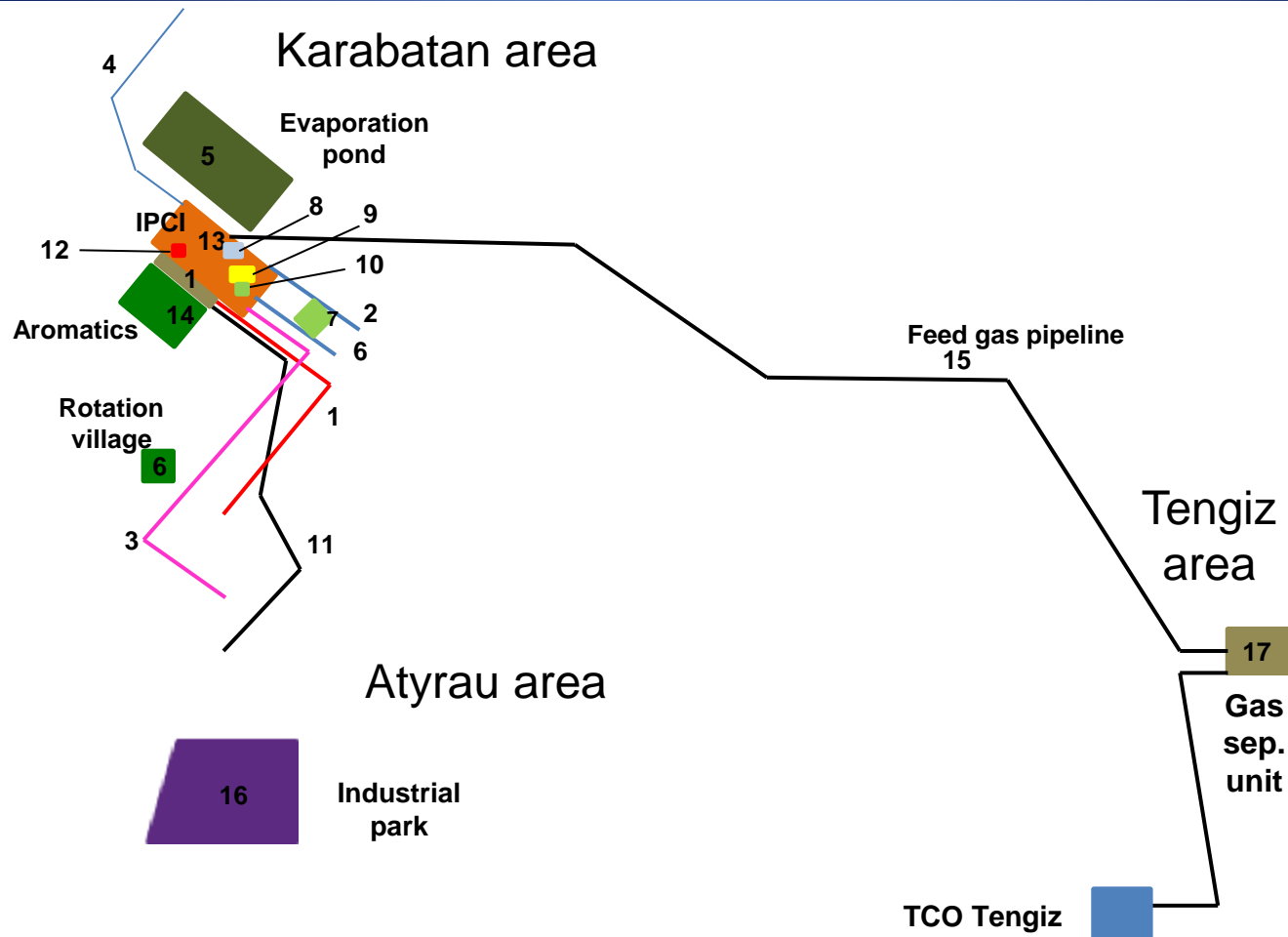




**Construction of the first  
integrated petrochemical  
complex in Atyrau region**

- Project title: «Integrated Petrochemical Complex in Atyrau region. Phase1 for the production of polypropylene». The project is included in the State program of forced industrial-innovative development of Kazakhstan, approved by Presidential Decree, as well as in the list of strategic investment projects approved by the Resolution of the Government of the Republic of Kazakhstan. The first world-class project for the production of polymers in the territory of the Republic of Kazakhstan.
- Location: Atyrau region, Karabatan, inside the SEZ territory, 47 km from Atyrau.
- The project consists of :
  - a propane dehydrogenation unit producing 503 ktpa of propylene;
  - a polypropylene production unit producing 500 ktpa of polypropylene;
  - utilities, infrastructure and offsites.
- License: propane dehydrogenation technology by Catofin® and polypropylene production by Novolen® (Lummus Technology Inc.) These technologies have been used successfully on a commercial scale, provide high selectivity and catalytic conversion. Processes are environmentally safe, reliable and operationally flexible.

# Layout plan



## Land parcels for infrastructure facilities

1 - railway station of IPCI, rail way and railway crossing	120,5 ha
2 - access auto-road	17,8 ha
3 - water supply line	89,6 ha
4 - fuel gas pipeline	28,3 ha
5 - evaporation pond	375,0 ha
6 - rotation village	4 ha
7 - temporary infrastructure of camp	74- ha
8 - gas turbine station	10 ha
9 - water treatment plant	24 ha
10 - air-nitrogen plant	6 ha
11 - power lines	52,9 ha
12 - logistics facilities	3 ha
<b>TOTAL</b>	<b>731.1 ha</b>

## Land parcels for petrochemical facilities

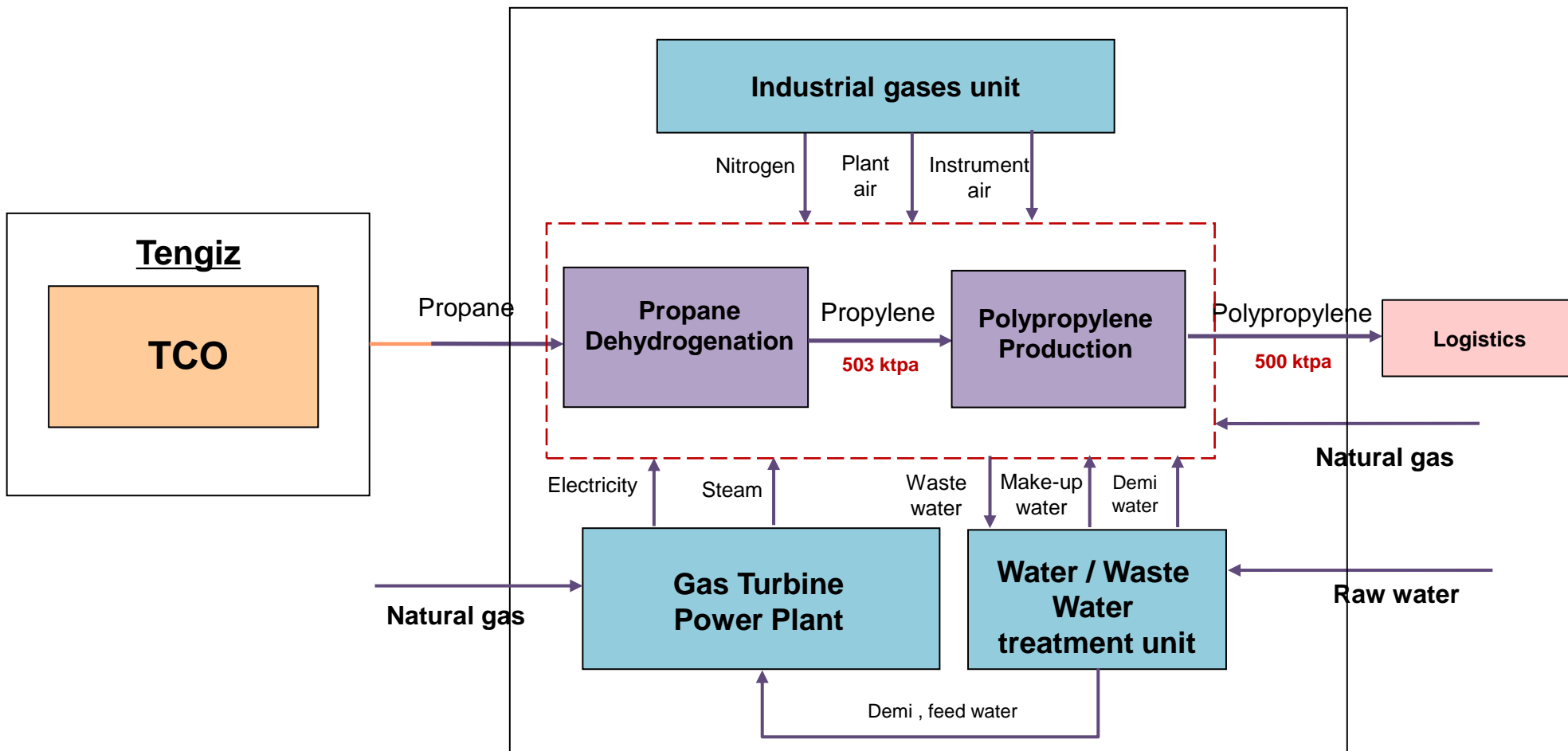
13- IPCI site (KPI, KLPE, Butadiene, Polymer Production)	423,7 ha
14 - aromatics plant	336,2 ha
15 - feed gas pipeline (ethane, propane)	1599,5 ha
16 - petrochemical industrial park outside the ANPZ	285 ha
17 - Gas separation unit	100 ha
<b>TOTAL</b>	<b>2744,4 ha</b>
<b>TOTAL AREA</b>	<b>3475,5 ha</b>

SEZ territory located 47 km from Atyrau.

List of Infrastructure facilities have been built:

1. Access auto-road to SEZ – 5,26 km.
2. Spur track (stn. Karabatan – stn. Zavodskaya) – 8,8 km.
3. Rail yard (stn. Zavodskaya), total length of tracks – 6,89 km.
4. Additional rail tracks of Karabatan stn., total length of tracks – 6,65 km.
5. Gas pipeline from Makat-North Caucasus main gas pipeline to SEZ – 8 km.

# Block Flow Diagram



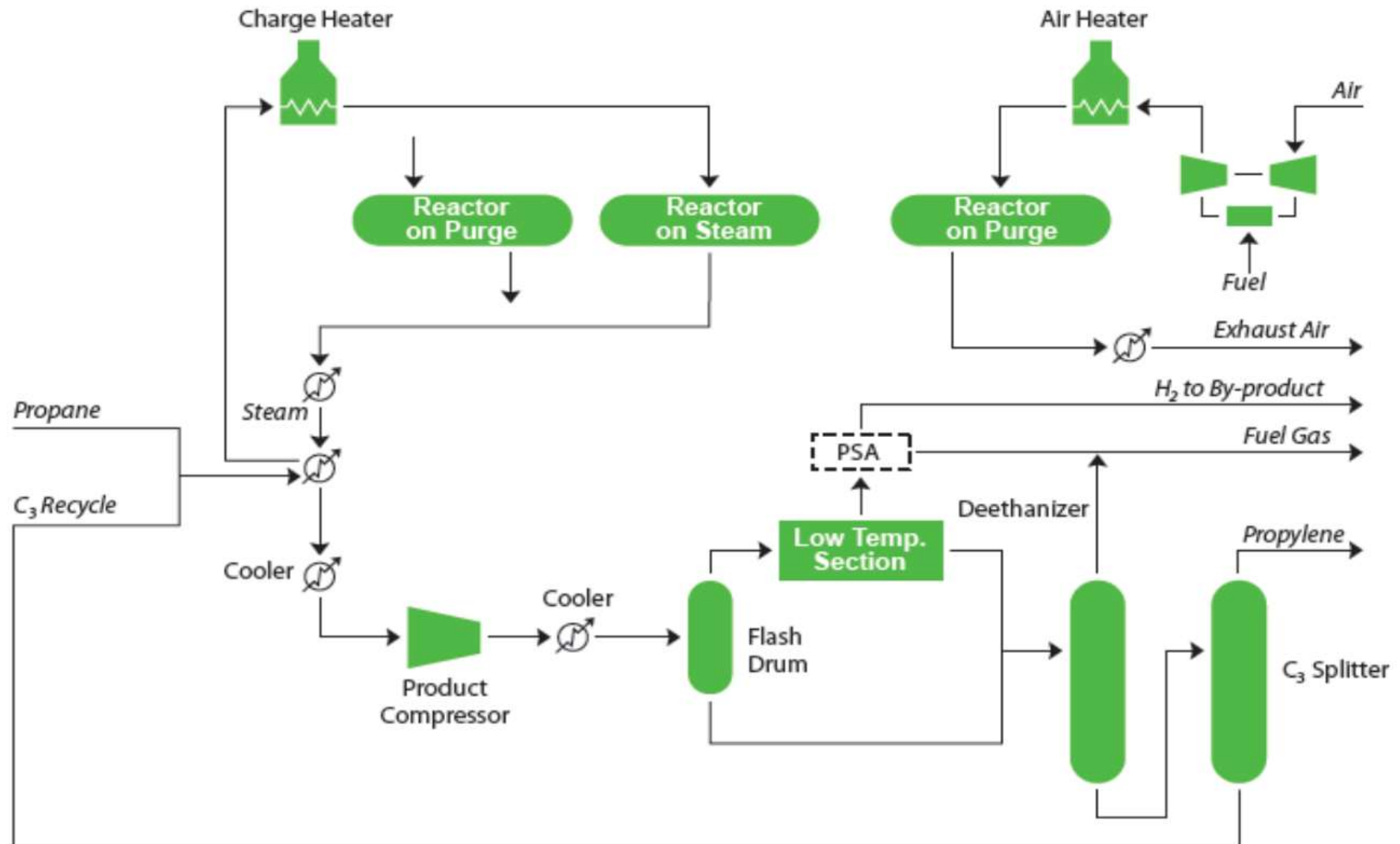
 Tengizchevroil

 Process units IPCI (phase 1)

 Infrastructure facilities

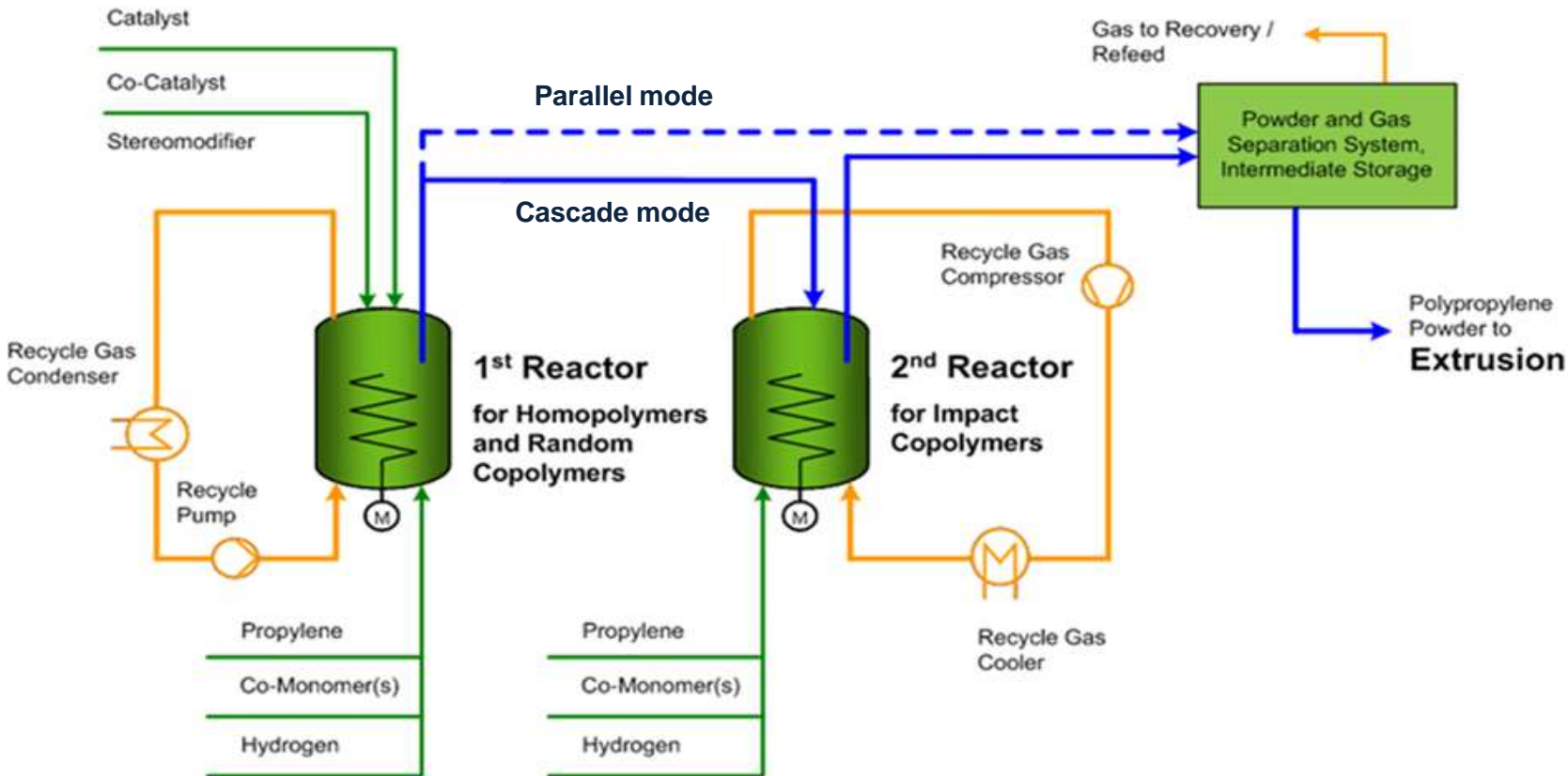
## Process Flow Diagram

# Propane dehydrogenation unit CATOFIN®



# Process Flow Diagram

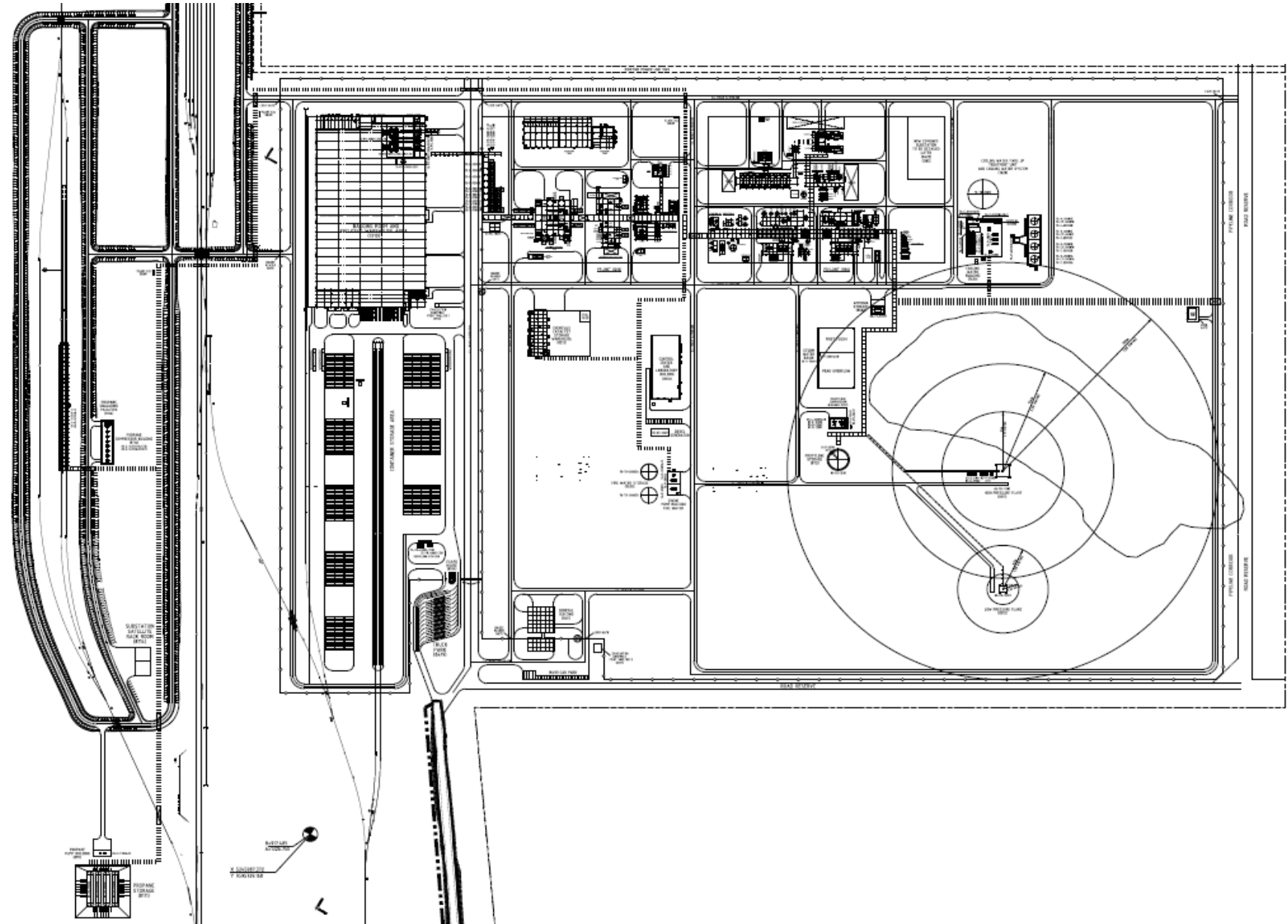
## Propylene polymerization unit Novolen®



Process lines of Propylene polymerization unit are dedicated for production:

- Propylene homopolymers;
- Random copolymers of propylene and ethylene;
- Impact copolymers of propylene and ethylene.

## General Plot Plan

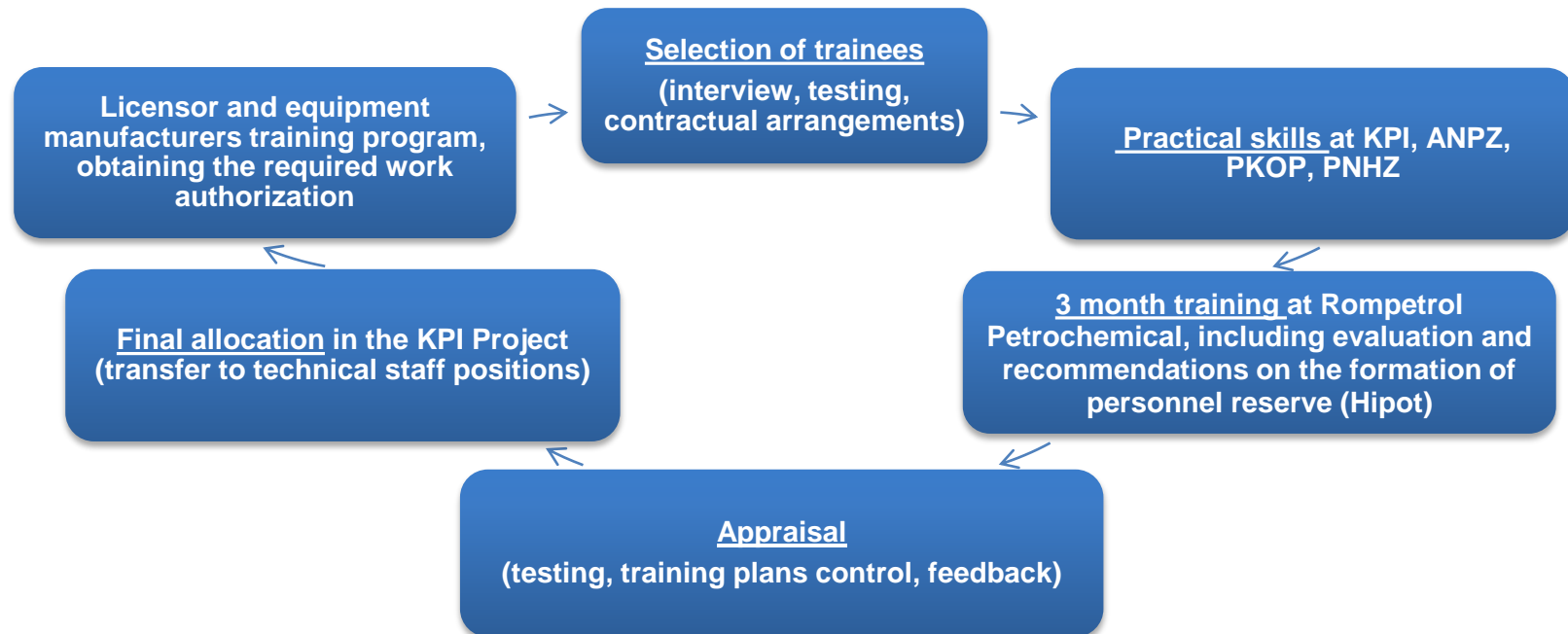


# Training Program



- The Training Program of KPI is aimed to train high qualified operating personnel among graduates for manning of future KPI operations, in order to ensure readiness for commissioning/start-up operations.
- The main tools for execution of this program are selection, recruitment and adaptation of the trainees, reserve training of qualified professionals and managerial personnel.
- KPI counts on young professionals, creates conditions for their further professional development and growth.

## Cycle personnel training





1. In 2013 the following groups from KPI was trained at Rompetrol Petrochemical (Romania) :
  - The first group of trainees, consisting of 17 people who have successfully completed training at a similar petrochemical complex. Trainees were trained in the following areas: safety, operation of process units (theoretic training), process and equipment control, laboratory test, practical training in operation and maintenance.
  - Two specialists of KPI staff successfully completed training - logistics and marketing of final products.
2. In 2014 the second group of trainees (8 people) was recruited, which is currently undergoing training with the first group at Atyrau refinery.

According to the KPI's training program, 155 specialists are to be trained by the end of construction.

## Planned staff training courses

1. Rompetrol Petrochemical training program;
2. Training of trainees on the basis of ANPZ, PNHZ, PKOP;
3. Equipment manufacturers training program;
4. Lummus Technology Inc. (Licensor) training program.

**Thanks for attention!**