

Field Development Phase

Upstream | Field Development Phase

The development stage takes place after successfully completing the appraisal period and before the beginning of the field production.

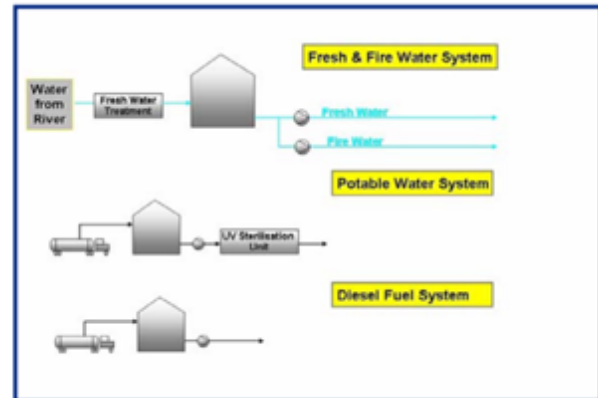
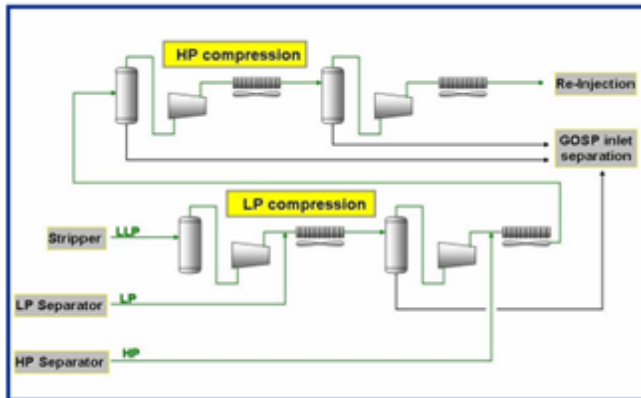
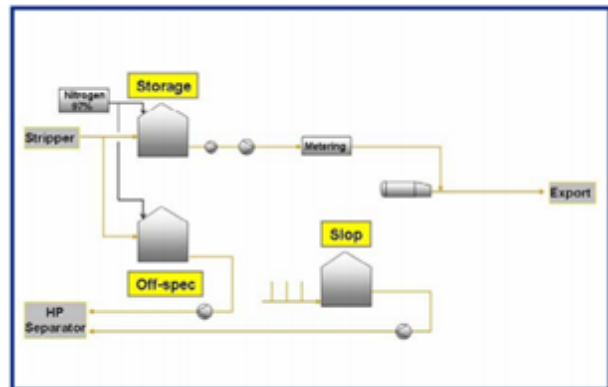
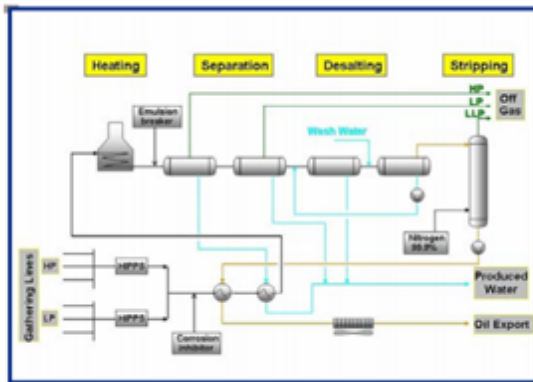
Field Development Plans (FDPs) provide the necessary support for field optimization, and include all activities and processes required to optimally develop a field.

In general, development activities and processes involves:

- environmental impact, geophysics, geology, reservoir and production engineering, infrastructure, well design and construction, completion design, surface facilities, economics and risk assessment

In particular, the activities and people involved in the development stage

- define a precise Field Development Plan (FDP) – geologists, geophysicists and reservoir engineers
- decide the best production/injection well placement and design – drilling engineers, reservoir engineers, geologists
- select the optimal production facilities required to properly process hydrocarbons before their treatment – production engineers, reservoir engineers, facilities engineers
- choose the transport options and route to export oil and gas – logistics engineers



Typical Process Plant for Field Development – Technip

The development of an oil and gas field costs millions of dollars and may require long time (5-10 years) to be fully realized.

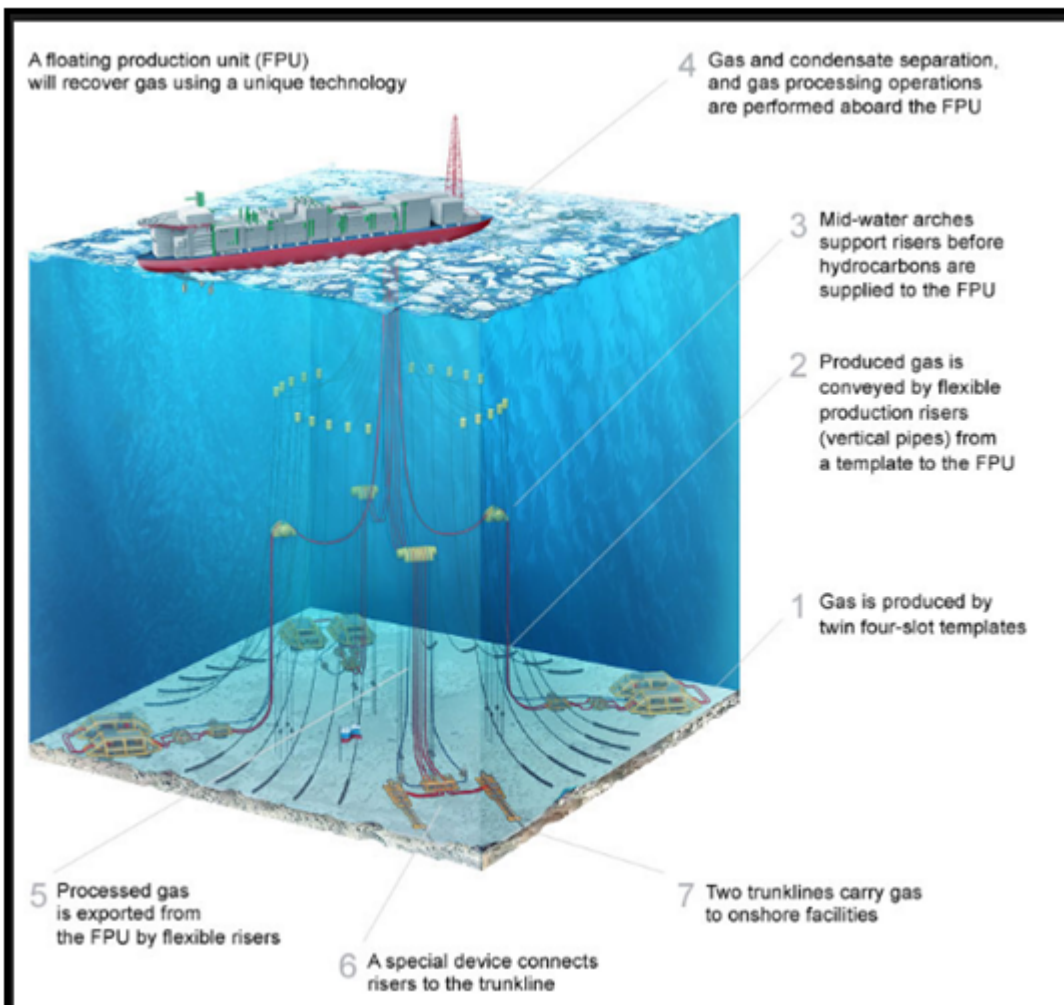
Costs and duration of the development phase depends on the location of the field, the size and complexity of the facilities, and the number of wells needed to achieve the production and economic targets.

A FDP must consider:

- Objectives of the development
- Petroleum engineering data
- Operating and maintenance objectives
- Description of the engineering facilities
- Cost and manpower estimates
- Project planning budget proposal

Once the field development plan is approved and before the beginning of production, some actions follow:

- Detailed design of the facilities
- Procurement of the materials of construction
- Fabrication of the facilities
- Installation of the facilities
- Commissioning of all plant and equipment



An example of an offshore field development scheme – (Gazprom)

To read more about a typical field development

<http://www.kbr.com/Newsroom/Publications/Articles/Selecting-the-Right-Field-Development-Plan-for-Global-Deepwater-Developments.pdf>

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- ELSEVIER – Developments in Petroleum Science: Hydrocarbon Exploration & Production – 2003
 - TRECCANI – Encyclopaedia of Petroleum
 - KBR – Publications: The Right Field Development Plan for Global Deepwater Developments – 2012