

Training - Natural Gas Transport by Pipeline



NGTRANS-EN-P



Face-to-face only



2 days

This course provides an overview of the technical and economic issues of natural gas transport by pipeline

Level

Knowledge

Public

Professionals (engineers, commercial, managerial staff, technical managers, technicians, operators...) interested in natural gas transport by pipeline, including equipment and services suppliers to gas transport companies

Objectives

Attendees will be able to implement the following skills:

- Gain an overview of the world map of natural gas pipeline networks
- Review marketed gas pipeline design: route, sizing, material, compression stations positioning and design, etc.
- Understand gas transportation network maintenance and daily operations within the framework of regulations

Pedagogical & technical resources

- Highly interactive training by industry-specialist lecturers
- Numerous applications and illustrations

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsible

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

INTRODUCTION TO NATURAL GAS

0.25 day

From reservoir to end user.

Chemical composition and properties of natural gas. Comparison to other combustible gases.

World reserves.

Panorama of offer, demand and movements.

TRANSPORT NETWORK

0.25 day

Overview of worldwide networks.

Perspectives of the development of the European network.

Interaction with other blocks of the natural gas chain: storage, LNG terminals, compression stations, network interconnections, delivery to the client.

Economical and technical comparison between transport by pipeline and LNG carriers.

DESIGN & CONSTRUCTION OF A GAS PIPE

0.5 day

Design standards: pressure, length, volume, diameter.

Fundamentals of metallurgy welding techniques and coating materials.

Pipe laying:

- Different steps of pipe laying operations.
- Cost/duration of pipe laying and compression station construction.

COMPRESSION

0.25 day

Characteristics of compressors: compression ratio, run-time frequency, environment-related issues (exhaust gases, noise, etc.), power types.

Types of compressor units: driver type (engine, electrical motor, gas turbine, etc.), reciprocating or centrifugal compressor.

Comparison between gas turbine and motor drivers, fuel gas and electricity power.

OPERATION OF A NETWORK

0.5 day

Maintenance, monitoring and technical management, risk prevention, safety regulations (law of August 4, 2006), cathodic protection, equipment maintenance, monitoring and controls, metering.

Network operation management: planning, execution, allocations and accounts.

ECONOMICAL ASPECTS OF GAS TRANSPORT BY PIPELINE

0.25 day

Investment costs (CAPEX).

Lifetime of a gas pipe.

Operation costs (OPEX).

Pricing for access of third parties to the gas transport network: analysis of the price breakdown in France.

Simulations of cost price per kWh delivered, for some typical cases.

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.

Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com