adi institute of quality engineers

OIL & GAS

QA/QC

MECHANICAL

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Oil & Gas

Uncovering the oil and gas industry

Considered to be the biggest sector in the world in terms of dollar value, the oil and gas industry is a global powerhouse employing hundreds of thousands of workers worldwide as well as generating hundreds of billions of dollars globally each year. In regions which house the major NOCs, these oil and gas companies are so vital they often contribute a significant amount towards national GDP.
The oil and gas industry can be broken down into three key areas: Upstream, midstream and downstream.
The Upstream component is also refereed to as the E&P (exploration and production). This involves search for underwater and underground natural gas fields or crude oil fields and the drilling of exploration wells and drilling into established wells to recover oil and gas.
Downstream refers to the filtering of the raw materials obtained during the upstream phase. This means refining crude oil and purifying natural gas. The marketing and commercial distribution of these products to consumers and end users in a number of forms including: natural gas, diesel oil, petrol, gasoline, lubricants, kerosene, jet fuel, asphalt, heating oil, LPG (liquefied petroleum gas) as well as a number of other types of petrochemicals. Midstream is generally classified under the downstream category.
The largest volumes of products of the oil and gas industry are fuel oil and gasoline (petrol). Petroleum is the primary material for a multitude of chemical products, including pharmaceuticals, fertilizers, solvents and plastics. Petroleum is therefore integral to many industries, and is of critical importance to many nations as the foundation of their industries.
In recent years there has been a growing negative sentiment towards the oil and gas industry and "big energy". Major environmental disasters such as the Deepwater Horizon Gulf Of Mexico Oil Spill have cast a negative spotlight up on the industry. The trend towards Renewable and Alternative energy is also another threat to traditional oil and gas companies. Coupled with the rise in pro-eco legislation and governmental pressure has meant the oil and gas industry is under more scrutiny than ever.
However the Oil and gas industry is still extraordinarily successful and still experiences massive growth. It's estimated that 30 billions barrels are consumed globally each year - primarily by developed nations. Oil also accounts for a significant percentage of energy consumption regionally from 32% for Europe and Asia, 40% for North America, 41% for Africa, 44% for South and 53% for the Middle East.

TRAINING FACILITIES

- Experienced Engineers as Faculties. ?
- Excellent Materials Provided. (Manuals, Demo softwares etc)
- Excellent and Efficient Placement Cell
- Onsite Training

COURSE CONTENTS

Introduction to Oil and Gas industry

Facilities and processes

Exploration

Production

- Onshore
- Offshore

Upstream process sections

- Wellheads
- Manifolds and gathering
- Separation
- Metering, storage and export
- Utility systems

Midstream

- Gas Plants
- Gas compression
- Pipelines
- LNG liquefaction and regasification facilities

Refining

Petrochemical

Reservoir and wellheads

Crude oil and natural gas

- Crude oil
- Natural gas
- Condensates

The reservoir

Exploration and drilling

The well

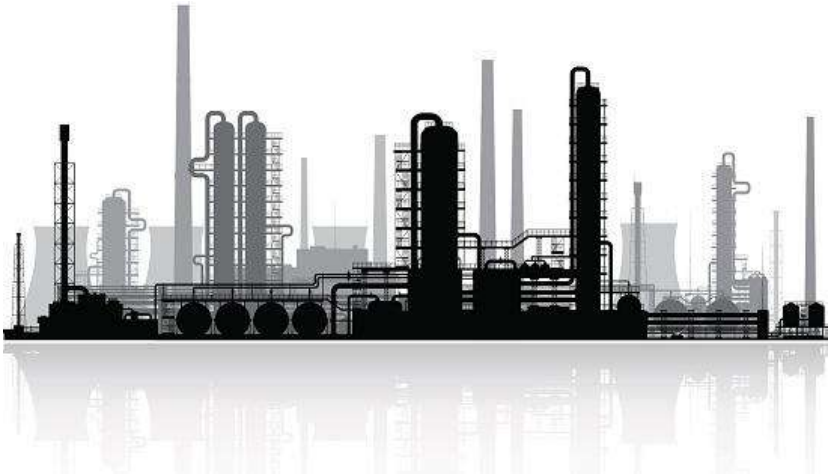
- Well casing
- Completion

Wellhead

- Subsea wells
- Injection
- Artificial lift
  - Rod pumps
  - ESP
  - Gas lift
  - Plunger lift
- Well workover, intervention and stimulation

The upstream oil and gas process

- Manifolds and gathering
  - Pipelines and risers
  - Production, test and injection manifolds
- Separation
  - Test separators and well test
  - Production separators
  - Second stage separator
  - Third stage separator
  - Coalescer
  - Electrostatic desalter
  - Water treatment
- Gas treatment and compression
  - Heat exchangers
  - Scrubbers and reboilers
  - Compressors, anti-surge and performance
- Oil and gas storage, metering and export
  - Fiscal metering
  - Storage
  - Marine loading



Midstream facilities

- Gathering
- Gas plants
  - Gas composition
- Gas processing
  - Acid gas removal
  - Dehydration
  - Mercury removal
  - Nitrogen rejection
  - NGL recovery and treatment
  - Sales gas specifications
- Pipelines
  - Pipeline terminal
  - Gas Pipelines, compressor and valve stations
  - Liquid pipelines, pump and valve stations
  - Pipeline management, control and safety
- LNG
    - LNG liquefaction
    - Storage, transport and regasification

Refining

- Fractional distillation
- Basic products
- Upgrading and advanced processes
- Blending and distribution

Petrochemical

- Aromatics
  - Xylene and polyester chain
  - Toluene, benzene, polyurethane and phenolic chain
  - Benzene and styrenic chain, derivatives
- Olefins
  - Ethylene, derivatives
  - Propylene, derivatives
  - Butadiene, butylenes, and pygas, derivatives
- Synthesis gas (syngas)
  - Methanol based products
  - Ammonia based products

Utility systems

- Process control systems
  - Safety systems and functional safety
  - Emergency shutdown and process shutdown
  - Fire and gas system
  - Control and safety configuration
  - Telemetry/SCADA
- Digital oilfield
  - Reservoir management and drilling operations
  - Production optimization
  - Asset optimization and maintenance support
  - Information management systems (IMS)
  - Training simulators
- Power generation, distribution and drives
- Flare and atmospheric ventilation
- Instrument air
- HVAC
- Water systems
  - Potable water
  - Seawater
  - Ballast water
- Chemicals and additives
- Telecom

Unconventional and conventional resources and environmental effects

- Unconventional sources of oil and gas

- Extra heavy crude
- Tar sands
- Oil shale
- Shale gas and coal bed methane
- Coal, gas to liquids and synthetic fuel
- Methane hydrates
- Biofuels
- Hydrogen

Emissions and environmental effects

- Indigenous emissions
- Greenhouse emissions
- Carbon capture and sequestration

WHY YOU SHOULD WORK IN THE OIL AND GAS SECTOR

You WILL be busy

As previously mentioned, there are lots of concerns surrounding this sector due to global shortages and the demand for renewable energy increasing. At present, the industry provides three quarters of the UK's primary energy, and it's expected to double production in the next 15 years. As well as this, the world of oil and gas is all about tapping into the world's resources, and there will always be a need for people to do this, whether it's for sustainable energy or using the current methods. Technology is constantly expanding in this area, so you'll always be learning new things. Even if resources ran out a year from now, you'd have loads of transferrable skills you could transfer onto new and developing areas of the industry.

There's plenty of various work surroundings

When you think of the oil and gas sector, oil rigs offshore and using heavy machinery may come to mind. For some, this is a perfect work environment (especially if you hate office life) with lots of variation. However, many jobs in oil and gas are based in labs and offices, so you have a good choice of which work environment you prefer, which a lot of jobs can't offer.

You only need to work for half of the year

Disclaimer: This doesn't apply for all jobs in the oil and gas sector. If you're based in an office, you'll most likely be doing core office hours (9-5 Monday – Friday). If you're based offshore on an oil rig, you'll be working for long hours and extended periods of time; 12-hour shifts for maybe up to six weeks. But, once you've completed this intense course, you'll get the same period of time off work, which means you'd only work for half of the year. Winning!

You can really earn the big bucks

Most salaries for experienced workers in this sector exceed £50,000. If you're starting out as a gas engineer, you can earn up to £30,000 once you're qualified. There's a lot of opportunity to grow and climb the career ladder in this sector, and you can even earn £150,000 and higher as a drilling consultant!

Tech, tech and more tech

The industry uses the most up to date state of the art technology to get top results. You'll always be learning new methods of technology and how to utilise it in the best possible way. By developing your knowledge as you work in the sector, you're constantly adding new strings to your bow.

Your educational background could be more useful than you think.

Due to rising apprehensions over sustainability, the industry needs as many people as possible to suggest how to continue to get fuel for this planet. If you've come from a background of environmental studies, you could easily work in this sector. It's an issue that's never going to disappear, and solutions need to be reached as soon as possible.

You can travel the world

It's not just the UK that needs oil. It's demanded from all over the globe, and once you're trained and experienced enough, the world is your oyster. You'll have the option to travel anywhere you wish to. If you're working offshore, there are various locations you could work too.

Training opportunities and other benefits

The oil and gas sector is rife with training and development opportunities. Many employers provide excellent training for their staff because they want to keep their talent. A lot of employers will also offer other perks such as bonus schemes, good pension plans, private healthcare and dental care, childcare support and more.

Still interested? There are lots of skills you'll need if you want to enter this field of work. Firstly, a degree in a relevant field will be to your advantage. If you have a background in electrical or mechanical engineering, you're off to a good start. It's also extremely important that you have an awareness of the latest health and safety procedures in the industry. A lot of the offshore work is dangerous, so you won't even get considered to get sent there if you're not clued up.

You don't have to go straight to the biggest companies either. You can work your way up through smaller companies so you can gain the best experience possible. As the oil and gas sector starts to develop even more, these smaller companies will grow with the sector and be extremely valuable places to work

QA/QC MECHANICAL

In the current educational field due to emerging of vast number of engineering colleges & technical institutions akin to them release a great number of students who are essentially in need of specialized training certifications besides the professional qualifications they are issued by the concerned colleges. Adi Institute of Quality Engineers is delivering innovative and reliable training on various methods in virtual ambiance by the trainers who have hand on experience in Refineries ,Aerospace ,Aircraft , Marine , Petrochemical ,Oil and GAS etc.

Course contents

The QUALITY CONTROL ENGINEERING is a certification cum training program for engineers. In addition to quality control we are also offering training in NON DESTRUCTIVE TESTING(NDT) In this course Adi Institute of Quality Engineers are covering the sections mentioned below

Introduction

a) About oil field industries

b) Oil wells

c) Offshore terminology

d) Onshore

e) Natural gas

f) Oil exploration

g) Oil production

h) Oil refinery

I) Common process units found in

Duties and Responsibilities

a) Main responsibilities (code compliance, workmanship control, documentation control)

b) Personal attributes (honesty, integrity, knowledge, good communicator, physical fitness, good eye sight)

c) Welding inspection (before ,during, after welding)

d) Welding inspectors equipments
e) Summary of duties (observe, record, compare)

Weld Terminology

a) What is weld and types of welds (butt weld, fillet weld, spot weld, edge weld, plug weld, compound weld)
b) Joint and types of joint (edge, lap, open and closed corner, tee, butt, cruciform)
c) Weld zone terminology
d) Joint design (bevel angle, included angle, root face, root gap) and weld preparation (single Vee, double Vee, single J, double J etc.)
e) Welding positions (1G, 2G, 3G, 4G, 6G, 1F, 2F, 3F, 4F etc.)

WELDING IMPERFECTIONS

a) Cracks
b) Lamellar tearing
c) Gas cavities
d) Crater pipe
e) Solid inclusion
f) Lack of fusion
g) Weld root imperfections
h) Undercut
I) Surface and profile
j) Overlap
k) Set up irregularities l)Incomplete groove
m) Oxide root
n) Miscellaneous imperfections
o) Mechanical damage

Destructive Testing

a) Quantitative tests (tensile test, hardness test, charpy v notch impact test)
b) Qualitative tests (bent tests, macro tests, fillet fracture, nick-break tests)
c) Welding procedure qualification testing

Welding Procedure Qualification

a) What is the test trying to show
b) Essential variable and Non essential variable
c) Additional variable
d) Preliminary welding procedure specification(PWPS)
e) Welding procedure approval record (WPAR)
f) Welding procedure specification (WPS)
g) Welder qualification

Material Inspection , Codes And Standards

a) Pipe inspection (corrosion , damage, wall thickness ovality, lamination and seams)
b) Plate inspection (corrosion, mechanical damage, laps, bands and lamination)
c) Parent material imperfections
d) Difference between standard and code

Welding Symbol

a) advantage and disadvantage of symbolic representation
b) symbolic representation
c) elementary symbol
f) BS EN 22553 symbols
g) AWS welding symbols

Introduction To Welding Process And Consumables

a) Classifications of welding m/c by principles (welding transformers, welding rectifiers, welding generators, alternator, inverter technology)
b) butt welding
c) fillet welding
d) welding process (SMAW AND TIG) C) Welding consumables (covered electrodes, filler wires and electrode wires, shielding gases, separately supplied fluxes, fusible

WELD REPAIRES

a) Production repairs and in-service repairs
b) Authorization and procedure for repair
c) Removal of material and preparation for repair
d) Monitoring of repair weld
e) Testing of repair-visual and NDT
f) Weld repair and related problems

Residual Stress And Distortion

a)Stresses (normal stress, shear stress, hoop stress)
b)Residual stress (along the weld, through the weld, across the weld)
c) Types of distortion (angular distortion, transverse distortion, bowing distortion, longitudinal distortion)
d)distortion prevention methods
e)distortion corrective techniques

Heat Treatment

a)Why?
b) How?
c) Types of heat treatment (preheat, annealing, normalising, quench hardening, temper, stress relief)

Four Factors And Weld Ability

a) fusion
b) atmospheric protection
c) surface protection
d) adequate properties
e) steel alloying elements
f) classification of steels
g) carbon equivalent formula
h) heat input
i) weld decay

NON DISTRUCTIVE TESTING (NDT)

As you may know, engineering companies where you are looking for placement are involved in construction and maintenance of industrial projects such as Oil Field Projects (RIG & GOSP), Refineries, Petrochemical Plants, Pipelines, Ship Building, Aircraft, Bridges, Power Plants, Nuclear Projects, Cement Plants, chemical plants, fertilizers etc. Usually these constructions are done in accordance with International Quality Standards such as ASME, API, ANSI, AWS, BS, JIS, BIS, EN etc. Hence QA/QC engineers should meet qualifications recommended in these standards so that he will be able to follow these standards during work. ASNT Level II is considered as minimum qualification to perform NDT activities in the project.

Radiographic Testing:	ASME Sec V Article 2
Ultrasonic Testing:	ASME Sec V Article 4 or 5
Penetrant testing:	ASME Sec V Article 6
Magnetic Particle Testing:	ASME Sec V Article 7

How NDT Training in Adi Institute is different?

NDT training in Adi Institute of Quality engineers Services will give a different feeling to candidates because of high standard of training systems. Our faculties are highly qualified and well experienced in India as well as abroad. Ourfaculties are conversant with quality standards such as ASME, API, AWS, ANSI, British Standards etc.

Radiographic Testing (RT)

Radiographic testing uses highly penetrating invisible electromagnetic radiations (X-ray or γ-ray) for testing. Please note that over exposure to these radiations to our body is harmful hence usage of these radiation sources in India is regulated by Bhabha Atomic Research Centre (BARC). Properly trained and licensed professionals are allowed to operate these sources in approved facilities.
Laboratory at our Chennai facility is approved by BARC. X-ray and Gamma ray equipment are available with us.
Safety classes for ASNT level II are handled by BARC certified Radiation Safety Officer (RSO) and Site-in-Charge.
Similarly KACST (King Abdul-Aziz City for Science and Technology) is the regulatory authority in Kingdom of Saudi Arabia (KSA). Our faculties are RSO qualified from KACST, Saudi Arabia. RT work in Saudi ARAMCO, SABIC, SWCC etc. follows regulations of KACST.

Radiographic Test Film Interpretation (RTFI) is another important segment in RT training. Accuracy of film interpretation is matter of knowledge and experience. A film interpreter should have sound knowledge about welding and casting process to interpret defects in it. RTFI training in Adi institute is very effective since training on welding defects will be handled by qualified welding inspector (AWSCWI) and Interpretation will be guided by Saudi Aramco certified RTFI.
Being a servicing company we keep 100s of radiographs with defect for interpretation practice.

Ultrasonic Testing (UT)

Ultrasonic testing uses ultrasound waves (greater than 20,000 Hz) to check integrity of materials. Sound waves are transmitted into the material and reflections are analyzed to detect defects. Accuracy of ultrasonic testing is purely skill of technician acquired through knowledge and experience. Practical of Ultrasonic testing is directly under the supervision of well experienced faculty which includes: Thickness / Dimension measurement Lamination Checking Corrosion Scanning Weld Scanning & Defect Identification NB: We keep digital and analogue UT equipment for training.

Magnetic Particle Testing (MT)

Magnetic Particle Testing applies magnetic flux into the ferromagnetic material being tested and indications are observed after application of magnetic powder. Surface and sub-surface defects can be identified using this method. There are different types of magnetic particle testing equipment and we provide training on below equipment: DC and AC Electromagnet (Yoke)
Prodes Bench Type Equipment NB: Both visible and fluorescent testing facility is available.

Liquid Penetrant Testing (PT):

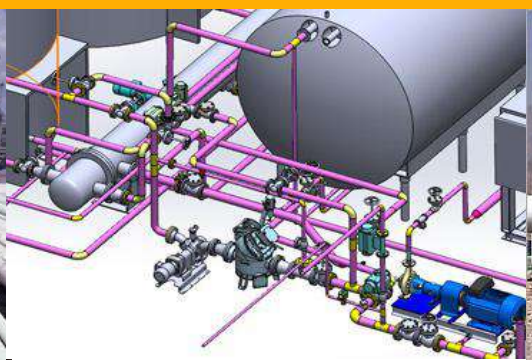
Liquid Penetrant Testing applies principle of capillarity for detection of surface breaking defects.
NB: Both visible and fluorescent testing facility is available.

Job Opportunities

Engineers qualified as QA/QC engineers / inspectors with relevant certification and experience are placed in engineering companies with attractive salary. Well experienced QA/QC engineers have better opportunity with Third Party Inspection companies and Vendor Inspection Companies as well. Industries of interest are as follows:

Gas Oil Separation Plant (GOSP)? Pipelines (oil, gas, water etc.)? Refinery? Aeronautical Companies ? Petrochemical Plants? Offshore Platforms? Water treatment plants? Nuclear Plants? Automobile Companies? Power plant construction? Ship building? Heat Exchangers? Storage Tanks? Pressure Vessels? Process Piping? Storage Tanks? Water Treatment Plants? Steel Plants? Fertilizers

PIPING & PIPE LINE ENGINEERING


Pipe lines are lifeline of the global oil/gas industry, providing economic, reliable means to transport oil and natural gas from upstream production to downstream refineries, power station and markets, crossing nations, oceans and continents. This theme introduces the key topics contained in the discipline of pipeline engineering, such as pipeline design and construction, operation, instrumentation, maintenance, integrity management, corrosion and its control, etc… with the anticipation of imparting a fundamental, comprehensive understanding of pipeline engineering

INTRODUCTION TO PIPING

* INTRODUCTION
* PIPING
* PIPING CLASSIFICATION
* OTHER PIPE RATINGS
* GENERAL DEFINITIONS
* FORCES, MOMENTS, AND EQUILIBRIUM
* WORK, POWER, AND ENERGY
* HEAT AND TEMPERATURE

PIPING COMPONENTS

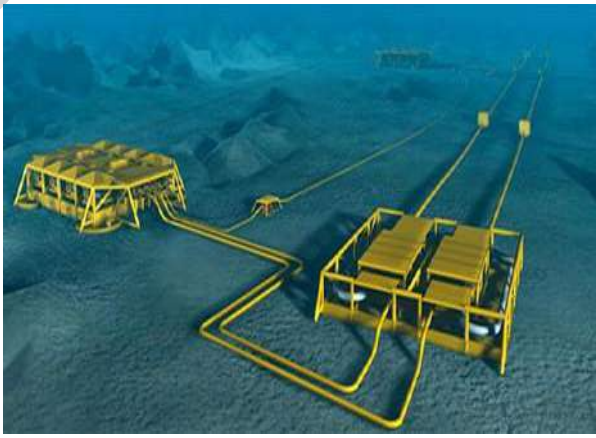
PIPE AND TUBE PRODUCTS
TRAPS
STRAINERS
EXPANSION JOINTS
THREADED JOINTS
WELDED AND BRAZED JOINTS
JOINING DUCTILE OR CAST-IRON PIPE
CONCRETE, CEMENT, AND CEMENT-LINED PIPE

PIPING MATERIALS

MATERIAL PROPERTIES OF PIPING MATERIALS
METALLIC MATERIALS
PHYSICAL METALLURGY OF STEEL
ALLOYING OF STEEL
CLASSIFICATION OF STEELS
STEEL HEAT-TREATING PRACTICES
DEGRADATION OF MATERIALS IN SERVICE
MATERIAL SPECIFICATIONS

PIPING CODES AND STANDARDS

AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASME BOILER AND PRESSURE VESSEL CODE
ASME SECTION I: POWER BOILERS
ASME SECTION II: MATERIALS
ASME SECTION III: NUCLEAR POWER PLANT COMPONENTS
ASME SECTION V: NONDESTRUCTIVE EXAMINATION
ASME SECTION VIII: PRESSURE VESSELS
ASME SECTION IX: WELDING AND BRAZING QUALIFICATIONS
ASME SECTION XI: RULES FOR IN-SERVICE INSPECTION OF NUCLEAR POWER PLANT COMPONENTS
ASME B31: CODE FOR PRESSURE PIPING
ASME B31.1: POWER PIPING CODE
ASME B31.3: PROCESS PIPING
ASME B31.4: LIQUID TRANSPORTATION SYSTEMS FOR HYDROCARBONS, LIQUID PETROLEUM GAS, ANHYDROUS AMMONIA, AND ALCOHOLS
ASME B31.5: REFRIGERATION PIPING
ASME B31.8: GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS
ANSI/ASME B31.11: SLURRY TRANSPORTATION PIPING SYSTEMS
ASME PERFORMANCE TEST CODES
AMERICAN SOCIETY FOR TESTING AND MATERIALS
AMERICAN PETROLEUM INSTITUTE
AMERICAN WELDING SOCIETY
AIR-CONDITIONING AND REFRIGERATION INSTITUTE
BRITISH STANDARDS AND SPECIFICATIONS
ISO STANDARDS AND SPECIFICATIONS



MANUFACTURING OF METALLIC PIPE

DEVELOPMENT OF COMMERCIAL PIPE-MAKING
FERROUS PIPE-MAKING PROCESSES
NONFERROUS PIPE-MAKING PROCESSES
COMMERCIAL PIPE AND TUBE SIZES
TUBULAR PRODUCT CLASSIFICATION
SPECIALTY TUBULAR PRODUCTS
ENGINEERING SELECTION OF PIPE MANUFACTURING METHODS

FABRICATION AND INSTALLATION OF PIPING SYSTEMS

INTRODUCTION
FABRICATION
INSTALLATION
REFERENCES

BOLTED JOINTS

- INTRODUCTION
- COST OF A LEAK
- THE PROCESS OF JOINT INTEGRITY
- FLANGE JOINT COMPONENTS
- FUNCTION OF GASKETS
- FUNCTION OF BOLTS
- BEHAVIOR OF THE FLANGED JOINT SYSTEM
- GASKET SELECTION
- BOLT SELECTION
- FLANGE STRESS ANALYSIS
- ASSEMBLY CONDITIONS
- BOLT LOAD MONITORING
- MANAGING FLANGE JOINT INTEGRITY
- MANUFACTURE
- JOINTS
- INSTALLATION

GROOVED AND PRESSFIT PIPING SYSTEMS

- PRESSFIT
- GROOVED MECHANICAL PIPE JOINTS

SELECTION AND APPLICATION OF VALVES

- INTRODUCTION
- VALVE TERMINOLOGY
- REFERENCE CODES AND STANDARD
- CLASSIFICATION OF VALVES
- MAJOR VALVE PARTS
- MATERIALS
- VALVE CATEGORIES
- VALVE TYPES
- PRESSURE-RELIEF DEVICES
- ACTUATORS
- SELECTION AND APPLICATION GUIDELINES

SELECTION AND APPLICATION OF CONTROL VALVES

- DEFINITION OF CONTROL VALVES
- HOW TO SPECIFY CONTROL VALVES
- FOR LIQUID SERVICE
- FOR GAS AND STEAM SERVICE

GENERIC DESIGN CONSIDERATIONS

HIERARCHY OF DESIGN DOCUMENTS

- PROJECT EVOLUTION
- FIRST STAGE
- SECOND STAGE
- THIRD STAGE

DESIGN BASES

- DEFINITION OF THE TERM DESIGN BASES
- USE OF CODES AND STANDARDS IN PIPING SYSTEM DESIGN
- PIPING JOINTS
- LOADING CONDITIONS
- ENVIRONMENTAL FACTORS
- MATERIALS-RELATED CONSIDERATIONS
- THERMAL INSULATION
- SIZING OF A PIPING SYSTEM

PIPING LAYOUT

- CODES AND STANDARDS
- PIPING LAYOUT CONSIDERATIONS
- SPECIFIC SYSTEM CONSIDERATIONS
- APPLICATION OF COMPUTER-AIDED DESIGN TO PIPING LAYOUT
- PFD
- P&ID

STRESS ANALYSIS OF PIPING SYSTEMS

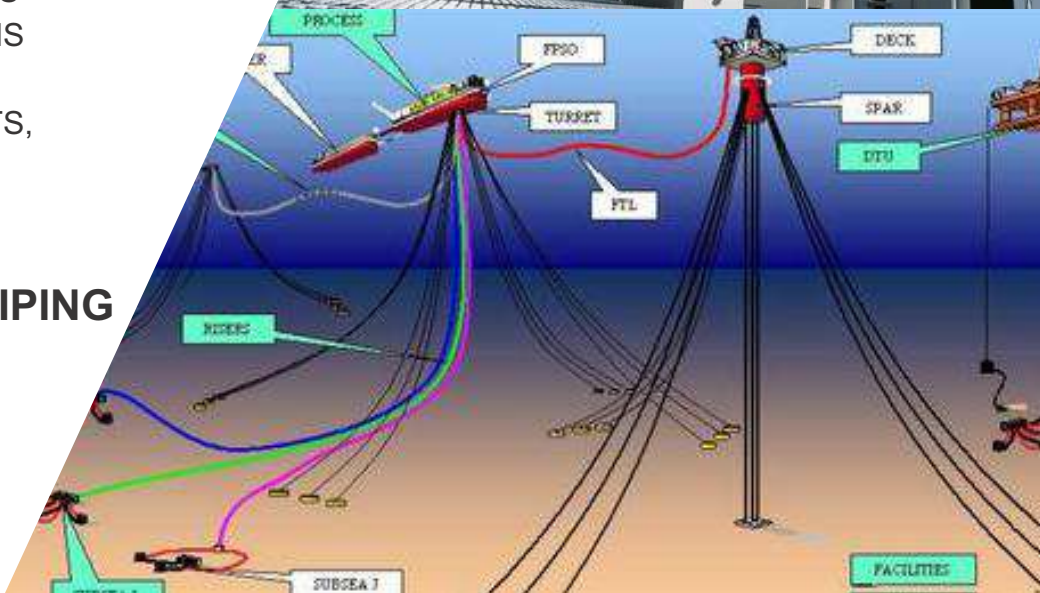
- FAILURE THEORIES, STRESS CATEGORIES, STRESS LIMITS, AND FATIGUE
- CLASSIFICATION OF LOADS, SERVICE LIMITS, AND CODE REQUIREMENTS
- STRESS INTENSIFICATION FACTORS (SIF) FOR NONSTANDARD FITTINGS
- LOCAL STRESSES
- ANALYSIS OF INTEGRAL WELDED ATTACHMENTS (IWA)
- TYPES OF PIPE LOADING CONDITIONS
- METHODS OF ANALYSIS
- PROCEDURES FOR THE DESIGN OF RESTRAINED UNDERGROUND PIPING

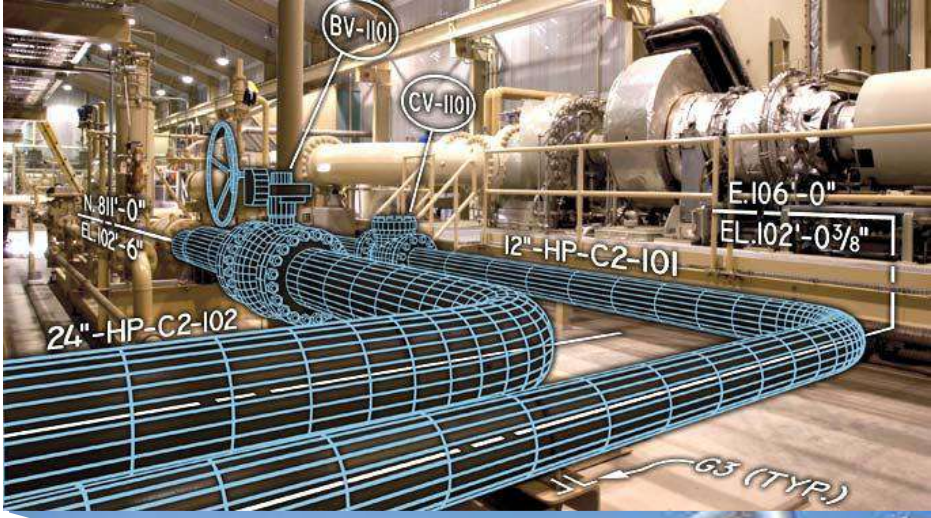
PIPING SUPPORTS

- INTRODUCTION
- DETERMINATION OF SUPPORT LOCATIONS
- DETERMINATION OF LOADS AND MOVEMENTS
- SELECTION OF PIPE-SUPPORTING DEVICES
- SUPPORT REQUIREMENTS FOR SPECIFIC PIPING MATERIALS
- DESIGN DETAIL CONSIDERATIONS

HEAT-TRACING OF PIPING SYSTEMS

- TYPES OF HEAT-TRACING SYSTEMS
- FLUID HEAT-TRACING
- ELECTRIC RESISTANCE HEAT-TRACING
- SKIN EFFECT TRACING
- IMPEDANCE HEAT-TRACING





OIL PIPELINE SYSTEMS

GAS SYSTEMS PIPING

PROCESS PIPING SYSTEMS

CRYOGENIC PIPING SYSTEMS

INTRODUCTION

ECONOMIC PARAMETERS OF CRYOGENIC FLUID DISTRIBUTION SYSTEMS

PROPERTIES OF CRYOGENIC FLUIDS

PIPELINE ENGINEERING

Introduction

- Introduction to Pipeline
- Responsibilities of Pipeline Engineer and Designer
- Scope of Pipeline
- Input and Outputs

Process Diagrams (PFD, P&ID)

Codes and Standards

Oil and gas terminology

Type of platforms

Pipeline Elements

Pipeline Materials

Material Take off for onshore and offshore pipelines

Pipeline Drawings

- Field layouts
- Alignment sheet
- Riser and spool GAD's
- Crossing details
- Trench details
- Anode details
- Monel sheathing

10. Pipeline Wall Thickness Calculation

Cathodic protection

Valves

Specialties

Pipeline Supports and Clamps

Configuration of equipments

Pipeline Installation methods

Pigging

SCADA

Are you looking for a job in this industry?

Contact:
Adi Institute of Quality Engineers

Delivering ultimate quality

adi institute of quality engineers

Our Courses

- Oil & Gas
- QA/QC Mech
- QA/QC Electrical
- QA/QC Civil
- NDT
- HVAC
- MEP
- BMS
- BAS

adi institute of quality engineers

An ISO 9001-2008 certified, Government approved

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API STED ASNT ASME SETTING THE STANDARD ASCE American Society of Civil Engineers IAO Indian School of Petroleum & Energy