TECHNICAL
EDUCATION
ACADEMY

School of Engineering

COURSE PROGRAMME

000401

PROD013 - Process Safety

Recent and past incidents have underscored the importance of a clear understanding of the principles of managing technological safety throughout the organization.



Learn from the Best in the Business!

Course overview

Duration: 5 days / 40 hours · Intermediate level

Why take this course

Recent and past incidents have underscored the importance of a clear understanding of the principles of managing technological safety throughout the organization.

This course helps participants accumulate technical expertise in the field of technological safety. Serious incidents related to technological safety breaches occur in the industry practically every week, some of them happening for the first time. In fact, the same violations occur repeatedly in various work situations.

One of the main goals of this course is to enhance knowledge of the most common breaches. One way to achieve this goal is through discussing key incidents, including those that have influenced regulatory frameworks.

Course participants will be able to look at production facilities and projects from a different perspective, gaining not only a new understanding of how everything operates but also insight into how failures occur. They will also be able to grasp the rationale behind some of our technological safety processes and norms, contributing to a more consistent and well-founded application thereof.

Who it is for and how it helps

This course is intended for anyone who needs to work with safety engineers, including technical operations engineers, operation and maintenance inspectors, project engineers and managers, entry-level engineers in the field of technological safety, experienced professionals new to the oil and gas industry, as well as anyone who requires a general understanding of the entire discipline of technological safety design.

What you will learn

- Describe standards and participate in deterministic methods of safety engineering in oil and gas processing
- Explain various elements of process safety management and determine implementation strategies
- Identify and describe critical safety elements in the production process
- Explain the most important features of process integrity
- Identify roles and responsibilities applicable to process safety management
- Establish goals for process safety management

Curriculum

Modules 01–05

01 Fundamentals of Process Safety

- General overview of process safety
- Functions and responsibilities of participants in process safety
- General understanding of equipment depressurization
- Risks associated with large-scale accidents

02 Process Safety Culture

- Leadership and commitment to safety
- Safety culture

03 Process Hazard Analysis

- Process safety information: products, technology, equipment, and operator intervention
- Hazards associated with standard oil and gas processes
- Hazard Identification Methodology (HAZID)
- Application of Hazard Identification (HAZID)
- Introduction to Failure Modes and Effects Analysis (FMEA)
- Introduction to Fault Tree Analysis (FTA)
- Equipment layout and introduction to consequence analysis

04 Process Operations

- Defining stages and limits of the operational phase
- Safe equipment isolation
- Pre-startup safety review and operational readiness

05 Production Integrity

- Safety-critical equipment
- Definition and functions of safety systems
- Control of ignition sources
- Introduction to emergency shutdown systems
- Fire and gas detection systems

Curriculum

Modules 05–06 · Module 05 — continued

- Passive and active fire protection

06 Organizational Elements

- Safe work practices methodology: permit-to-work system
- Unforeseen hazardous situations
- Emergency response planning
- Personnel training
- Staff training
- Human factors in process control

Programme instructor



Александр Александрович

Александр Александрович – уникальный специалист в нефтегазовой отрасли с более чем 40-летним успешным опытом работы в ведущих компаниях, таких как «Тенгизшевройл», «Лукойл» и Saipem. Он получил образование по специальности «инженер-химик – технолог по переработке нефти и газа» в Пермском политехническом институте и прошел многочисленные курсы и обучающие программы в России и за рубежом.

Александр Александрович участвовал в реализации крупных российских и международных проектов, имеет многолетний опыт управления технологическими процессами по переработке нефти и газа с высоким содержанием H2S. Он работал начальником технологической установки по переработке сырья с высоким содержанием H2S и главным оператором технологических установок на Карачаганакском месторождении. Он также занимался проектированием и модернизацией трубопроводов и контролировал соблюдение техники безопасности в ходе строительства, пуско-наладки и пуска объектов по переработке нефти и газа, анализировал опасные факторы производства и расследовал производственные аварии.

Кроме того, Александр Александрович имеет опыт работы в области техники безопасности на строительстве нефтепровода и газопровода «Сахалин-2», руководил командой технического надзора на строительстве завода сжиженного природного газа, морских терминалов отгрузки нефти и сжиженного газа, а также руководил монтажом и контролем качества работ на Газокомпрессорных станциях трубопроводной системы Казахстан-Китай. Он также обустраивал кустовые скважины на месторождениях West Qurna-2 с нулевой отметки до пуска.

Open full profile · tecedu.academy/en/profile/aleksandr-aleksandrovic

Participant ratings

Programme evaluation based on participant feedback

Overall programme rating — 4.9 / 5

Clarity of learning objectives	**4.6 / 5**
Confidence in applying knowledge and skills	**4.6 / 5**
Achievement of learning objectives	**4.7 / 5**
Relevance of content to job tasks	**4.5 / 5**
Suitability of difficulty for the level of preparation	**4.6 / 5**
Increase in knowledge	**4.7 / 5**
Skills development	**4.7 / 5**
Willingness to recommend the programme to colleagues	**4.6 / 5**

27 responses

Joining the programme

Contact the Academy and quote course code 000401 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

The published programme does not specify any prerequisites. Contact us before enrolling to confirm how to prepare.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

Learn from the Best in the Business!