TECHNICAL
EDUCATION
ACADEMY

School of Engineering

COURSE PROGRAMME

000471

MAIN017 - Repair of Pressure Equipment and Piping (ASME PCC-2-2022)

ASME PCC-2, being a relatively new standard and fairly popular, has proved to be useful for repair of pressure equipment and piping.



Learn from the Best in the Business!

Course overview

Duration: 2 days / 16 hours · Intermediate level

Why take this course

ASME PCC-2, being a relatively new standard and fairly popular, has proved to be useful for repair of pressure equipment and piping. Many large companies have adopted these procedures and incorporated them in their company specifications. The intent behind this training program is to introduce this standard to all attendees and understand all the basic concepts and philosophy, as well as the various procedures for repair of pressure equipment and piping.

We also will discuss the limitations, advantages, and disadvantages of the procedures mentioned in the standard. The correlation of this PCC-2 standard with other in-service codes and standards, such as: API 510 Pressure Vessel Inspection Code. In-Service Inspection, Rating, Repair, and Alteration; API 570 Piping Inspection Code. Inspection, Repair, Alteration, and Rerating of In-service Piping Systems; API 579-1 Fitness-For-Service; API 579-2 Fitness-For-Service. Example Problem Manual. It will help all engineers to collectively troubleshoot and resolve problems/ issues at site related to temporary/ permanent repairs of equipment and piping.

Who it is for and how it helps

This training program is suitable for Piping, Pressure Vessel, Tank design engineers, plant operating managers and engineers, process engineers. The course is also recommended for inspection and reliability persons, and engineers involved in maintenance, repair, and troubleshooting of plant equipment in Petrochemical, Refining, and Chemical industries. This course is also intended for technicians and engineers involved in calculation, design, selection, manufacturing, safety, quality and maintenance of systems and equipment in industrial processes.

What you will learn

- To comprehend the damage and in-service degradation experienced by Piping and Pressure vessels
- To learn stepwise methodology for assessing flaws and defects developed during the service
- To learn method of selecting between "3R" options (Run, Repair and Replace)
- Assess future remaining life
- Address the repair of key components when repair is necessary on the basis of right inspection and defect assessment
- Decision making with regards to permanent or temporary repairs
- How to choose the right repair plan
- Executing repairs without causing any damage to equipment
- To examine and test repaired requirements
- Repair report and documentation
- Apply NDT and testing procedures for repaired equipment and piping

Curriculum

Modules 01–04

01 Introduction and Overview of ASME PCC-2

- Scope, Organization, and Intent
- In-service degradation and damage suffered by Piping and Pressure vessels
- Choosing correct repair technique for given defects
- Repair methods and Inspection techniques
- Applicability and limitations of repair methods covered by ASME PCC-2

02 Welded Repairs

- Butt-Welded Insert Plates in Pressure Components
- Repair procedure and NDT of insert plate repair
- Weld Overlay to Repair Internal Thinning
- Pre-qualified repairs
- Burst testing method
- Welded Leak Box Repair
- Full Encirclement Steel Reinforcing Sleeves for Piping
- Weld Buildup, Weld Overlay, and Clad Restoration
- Fillet Welded Patches
- Alternatives to Postweld Heat Treatment and Traditional Welding Preheat
- Threaded or Welded Plug Repairs
- Flaw Excavation and Weld Repair

03 Mechanical Repairs

- Mechanical Clamp Repair
- Freeze Plugs
- Damaged Threads in Tapped Holes
- Non-metallic Composite Repair Systems

04 Inspection and Repair of Shell and Tube Heat Exchangers

- Inspection Tube count
- Tube plugging
- Examination and Testing

Curriculum

Modules 04–07 · Module 04 — continued

- Hot and Half Bolting
- Flange Repair and Conversion

05 Pipe Straightening or Alignment Bending

- Pipe Straightening or Alignment Bending

06 Pressure and Tightness Testing of Piping and Equipment

- Pneumatic Testing
- Nondestructive Examination in Lieu of Pressure Testing for Repairs and Alterations

07 Relevance of ASME PCC-2 Standard with API 510, 570, and 579 Codes

- Relevance of ASME PCC-2 Standard with API 510, 570, and 579 Codes

Programme instructor



Boris Koryagin

Борис Корягин является высококвалифицированным специалистом с более чем 30-летним опытом работы в механике и инженерии в нефтегазовой отрасли. Его карьерный путь включает широкий спектр должностей, от ведущего инженера-механика до консультанта и инструктора.

Профессиональные успехи и достижения:

Борис начал свою карьеру в 1999 году и с тех пор накопил богатый опыт в различных областях. Он занимался проектированием и анализом механического оборудования, обеспечивал техническую поддержку и обслуживание, координировал деятельность субподрядчиков и управлял проектами. В частности, он принимал участие в проектной документации для крупных нефтегазовых проектов в России, Туркменистане и Казахстане, обеспечивал соответствие международным и местным стандартам и успешно адаптировал проектную документацию.
На протяжении своей карьеры Борис занимался обучением и разработкой учебных программ. Он разработал и провел множество курсов по механическим дисциплинам, обучая студентов и специалистов основам работы с механическим оборудованием, включая статическое и вращающееся оборудование, а также дисциплины, связанные с бурением и контролем скважин. Борис также активно участвовал в управлении проектами, обеспечивая координацию деятельности субподрядчиков и взаимодействие с проектными группами. Он успешно руководил проектами по модернизации газоочистных заводов и строительству региональных нефтеперерабатывающих заводов, разрабатывал специальные технические условия для согласования российских и международных стандартов, проводил инженерные изыскания и управление интерфейсами.

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Participant ratings

Programme evaluation based on participant feedback

Overall programme rating — 4.4 / 5

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

7 responses

Joining the programme

Contact the Academy and quote course code 000471 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

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