Reduced Cost Technologies for FPSO and FLNG Facilities Structural Renovation of Buildings

Date	Venues	($)Fees	Book your seat
05 May -09 May 2024	London	5500	Register Now

Introduction

The renovation of the reinforced concrete structures has become common in recent years due to the development in technologies, materials and the techniques for maintenance and repair. This training course will present methods for inspection and evaluation of buildings and diagnose the reason of concrete deterioration or the corrosion of the steel bars, to develop preventive maintenance program.

The causes of structure deterioration will be discussed concentrating on the reason of corrosion and new protection methods to the steel bars. All the repair and renovation methods will be covered theoretically and practically and obviously discussed its advantages and disadvantages and how to use the suitable method. The case study explains practically who can we diagnosis the reason of deterioration and take the decision of repair and choose between different alternatives. CFRP will be illustrated for renovation and strengthening the structure.

This training course will feature:

- The new methods of structure diagnosis
- The new methods for structure renovation
- The materials that will be used in concrete structure repair
- Protection of the structure during the renovation

Objectives

By the end of this training course, participants will be able to:

- Understand modern and effective procedures for renovation of the building
- Know the structure defects and cracks and diagnosis the reason for deterioration
- Diagnose the problem and provide a repair solution
- Familiarise with up-to-date renovation methods for concrete and steel structures

Training Methodology

This training course will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. The daily workshops will be highly interactive and participative. Videos and photos will be used for illustration.

Organizational Impact

- Improve the renovation project cost
- Improve the maintenance cost and quality for RC structure
- The value cost for renovation versus project investment
- Increase the organization investment by have a durable structure

Personal Impact

- Competent to assess structures
- Capable to define the scope of renovation
- Able to define the reasonable method of repair
- Capable to use advanced materials in renovation

Who Should Attend?

This training course is designed for people in the construction industry who are involved in building maintenance and provide execution plan for maintenance and repair for buildings.

The training course will also benefit those who are involved in preparing maintenance document package, diagnose the reasons of failure, and also the engineers who define and choose the methods of repair.

SEMINAR OUTLINE

DAY 1

Building Evaluation

- Inspection and evaluation of the buildings
- Methods of Inspection
- Visual inspection criteria
- New techniques to inspect the building
- Using ultrasonic and infrared for inspection
- Concrete material deficiencies
- Evaluate the building risk
- Diagnose the reason of deterioration
- Workshop: Define the cracks types
- Workshop: cracks in miscellaneous foundations

DAY 2

Successful Steps for Repairing RC Structure

- Construction errors
- Design errors
- Define the method of repair
- corrosion phenomena
- Precaution during repair
- Selecting the materials repair
- Step by step repair procedure
- Corrosion and protection of steel structure in concrete
- Methods of protection
- Cathodic protection
- Comparison between different types of protection
- Video - Repair methods

DAY 3

Properties of Protective Coating

- Evaluate the current protective coating
- Types of protective coating
- Properties of each type
- Precautions in using the coating
- Types of cracks in R. C. structures
- Comparison between different cracks
- Reasons for each type of cracks

DAY 4

Methods of Repairing the Cracked Structure Corrosion

- Methods of repair and prevention for each type
- Materials used to repair corroded structure
- Methods of repair
- Using polymer bonding materials
- Types of polymer
- Properties of these materials
- Using Hot rolled section for repair

DAY 5

Maintenance Strategy

- CFRP application
- Design and construction of CFRP
- Using CFRP for repair
- Using CFRP for structure strengthening
- Likelihood of building failure
- Define consequences of failure
- Provide risk matrix
- Risk based inspection (RBI)
- Maintenance plan and strategy based economic
- Software for maintenance strategy
- Case study

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