SC097:
Construction Quality Control On-Site

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Training Description:

Structural engineers are encountering many problems due to the hot climate and the other environmental conditions. Quality control in construction of the reinforced concrete structure is a complete function which involves management, statistics and engineering. In a hot climate, it needs more precaution in concrete industry and on the construction of the building to match with the requirement to this weather. All the examples and real case studies for oil and gas projects.

In this intensive training course will focus on using the statistics as a tool to control all the activities of the construction projects, especially the concrete product. The quality control of the concrete is illustrated in scope of the different codes and specifications.

This Civil & Construction Engineering course will deliver a state-of-art methodology to control the concrete quality, introduces ways to control the specification recommendations in detail, and all the new modern the techniques and methodology used in concrete industry to enhance the concrete quality. This course on Construction Quality Control on Site will cover the main QC concept for shell specs and other international oil and gas companies.

The course will highpoint:

- Different codes and standards for quality control
- Quality control test (video presentation)
- Effects of quality in project sustainability
- Main skills and required knowledge for QC on-site
- QC procedure for concrete in a hot climate
- QC for steel structure activities

Training Objectives:

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

- ✓ Familiarise all quality management techniques and procedures
- ✓ Learn available non-destructive testing for concrete and steel structure projects
- ✓ Understand the practical tools to control the concrete and the whole project that includes field-testing and the required laboratory facilities
- ✓ Familiarise various techniques for evaluating the structures under construction
- ✓ Learn modern field measurements such as concrete strength
- ✓ Familiarise with all quality control techniques in hot climate

Training Designed for:

This course is intended for structural and civil engineers responsible for the Quality Control and Quality Assurance, with the most recent non-destructive testing for concrete and steel structure. This course on Construction Quality Control On-Site is also beneficial for Construction Engineers, Project Managers, Construction Managers, and Quality Assurance and Quality Control Professionals.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

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Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- Introduction Total Quality Management (TQM) of Concrete
  - Total quality management system
  - Quality assurance & quality control
  - Who will perform the quality control?
  - Quality management constrain in oil and gas projects
  - Pareto chart
  - How to control the concrete from ready mix plant
  - How to control concrete casting onsite
  - Coefficient of variation
  - Auditing the construction site quality
  - Precaution in design mix in hot weather

DAY TWO:

- Components of Concrete Material
  - Codes recommendation for the quality control
  - Codes and specifications limitations as ACI and EN
  - Comparison on different non-destructive testing
  - The nature of concrete variability
  - Preparation before concreting
  - Concrete materials properties such as aggregate and cement
  - Check the corrosion in steel bars
  - Example of QC of concrete foundations construction under vibrating machine

DAY THREE:

- Properties of Fresh Concrete
  - Basic statistics
  - Collecting a data for evaluations
  - Statistics for the quality control data
  - Evaluating the grade of the quality
  - Concrete design mix
  - Precaution in design mix in hot climate for remote area
  - QC for fresh concrete
  - Quality control for concrete formwork
  - Pouring concrete in hot weather problems
  - Workability test for concrete
  - Cube and cylinder test
  - The replacement of the steel bars
  - The permissible deviation in erection steel structure
  - Applied load on the steel structure of pipe rack in construction activities

DAY FOUR:

- Comparison between Different Non-destructive Tests
  - Comparison between different fresh concrete tests
  - Core test
  - Rebound hammer
  - Lok test
  - Load test for floor deck under machine
  - Ultrasonic test
  - Corrosion phenomena affect quality
  - Different corrosion protection system
  - QC for corrosion protection system for oil and gas plant
  - Applying QC on wood formwork and steel
  - Steel reinforcing QC
  - Procedure of QC onsite
  - QA/QC Case study for foundation in gas plant

DAY FIVE:

- Integrity management
  - Materials used in welding steel structure
  - QC for equipment preservation and installation for static equipment
  - QC for tank construction
  - QC for foundation construction and machine installation
  - The precaution in welding process
  - Anchor bolts QC
  - The reasons of welding defects
  - Overview of the 5 methods (PT, MP, RT, UT, VI)
  - Integrity management system for oil and gas plants
- Course Conclusion
- POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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