PROJACS ACADEMY
by egis

Electrical Cables Aerobic and Ground Repair Systems (Internal and External)

الكابلات الكهربائية الهوائية والارضية (الداخلية والخارجية) -اعطالها وأنظمة الإصلاح والحماية

03 - 07 September 2023

Sharm El Sheikh / Egypt

Introduction

Power cables come in a variety of sizes, materials and types. Each adapted to a particular application. A cable network isn't made up of cables alone: there are many different types of joints and termination (sealing end). These accessories have a major influence on network reliability.

Objectives

This course aims to provide a comprehensive overview of Power Cables with specific sessions on cable types, components, electrical design calculations, cable installation, grounding, protection, testing, operation, repair and maintenance.

Who Should Attend?

The course is targeted to Engineers and Senior Technicians working in electrical installation and cables in distribution systems, Operation and protection.

Course Outline

Day One

Cables Types

- Types Of Cables according to voltage level
- Construction of cables
- Cable Accessories
- Cable Construction
- Cable Specifications
- Electrical Characteristics
- Physical and Mechanical Characteristics

Day Two

Cables in Internal and External systems

- Cable Connections at MV networks
- Cable Connections at LV networks
- Current Ratings
- Conductor Dimensions
- Types of Cable Installations
- De-Rating Factors
- Conductor Short Circuit Ratings
- Voltage Drops

Day Three

Cable Fault Location

- Distribution Feeder Faults
- Fault location system for low voltage networks
- Fault location system for medium voltage networks
- Cable Fault Location techniques
- Impulse Reflection Method (TDR)
- Bridge Method
- Cable Route Tracing
- Acoustic Fault Location

Day Four

Cables problems and Repair

- Reasons for cable failures
- Problems of Insulation Materials
- Causes of Insulator Failure
- Cable splicing jointing
- Terminating and testing
- Joints and terminations

Day Five

Power Cable Maintenance

- Latest techniques in LV/MV/HV cable splicing jointing, terminating and testing
- Theory of joints and terminations
- How to Read and understand description , legend and trace site routs, cable burying details
- Reasons for cable failures, analysis and predictive maintenance
- Method of repairing the damaged cable outer sheath.
- Method of Repairing the oil leak of Oil filled cable circuits.

Training Method

- Pre-assessment
- Live group instruction
- Use of real-world examples, case studies and exercises
- Interactive participation and discussion
- Power point presentation, LCD and flip chart
- Group activities and tests
- Each participant receives a 7” Tablet containing a copy of the presentation, slides and handouts.
- Post-assessment

Program Support

This program is supported by interactive discussions, role-play, case studies and highlight the techniques available to the participants.

Schedule

The course agenda will be as follows:

- Technical Session 08.30-10.00 am
- Coffee Break 10.00-10.15 am
- Technical Session 10.15-12.15 noon
- Coffee Break 12.15-12.45 pm
- Technical Session 12.45-02.30 pm
- Course Ends 02.30 pm

Course Fees*

- **3,600 USD**
  **VAT is Excluded If Applicable*

المقدمة

ان الكابلات الكهربائية تأتي في مجموعة متنوعة من الأحجام والمواد والأنواع. حيث يتم اســتخدام كل نوع لتطبيق معين. حيث ان الشـبكة الكهربائية لا تكون من الاسـلاك فقط :فانه هناك العديد من أنواع مختلفة من الوصلات و النهايات المحكمة, و ان هذه الملحقات لها تأثير كبير على موثوقية الشبكة.

الاهداف

يهدف هذا المقرر إلى تقديم لمحة شـــاملة عن الكابلات الكهربائية مع جلســـات محددة على أنواع الكابلات والمكونات وحسـابات التصـميم الكهربائية وتركيب كابل، التأريض، الحماية واختبار وتشـغيل والإصـلاح والصيانة.

الحضور

هذه الدورة للمهندســـين والتقنيين الذين يعملون في التركيبات الكهربائية والكابلات في أنظمة التوزيع والتشغيل والحماية.