

## **COURSE: NR-10 – SAFETY IN INSTALLATIONS AND ELECTRICITY SERVICES – PERIODICAL TRAINING**

### **SCOPE AND APPLICABILITY:**

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Establish the minimum requirements and conditions aiming the implementation of control measures and prevention systems, in order to ensure the safety and health of workers who directly or indirectly interact in electrical facilities with electricity. Applies to the stages of generation, transmission, distribution and consumption, including the stages of design, construction, installation, operation, maintenance of electrical installations and any work done in your vicinity, observing official technical standards established by the competent bodies, or omission in the absence of these, applicable international standards.

### **REGULATIONS & STANDARDS**

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- NR10;
- NR37;
- NBR 5410;
- NBR 14039.

### **COURSE CONTENT:**

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| 1. Introduction to safety with electricity;              | 7. Personal protective equipment;             |
| 2. Risks in installations and services with electricity; | 8. Work routines – procedures;                |
| 3. Electrical Risk Control Measures;                     | 9. Documentation of electrical installations; |
| 4. Brazilian Technical Standards and others;             | 10. Additional risks;                         |
| 5. Brazilian Labor Regulations;                          | 11. Protection and firefighting;              |
| 6. Collective protection equipment;                      | 12. Accidents of electrical origin;           |
|  | 13. Responsibilities.                         |

### **COURSE DESIGN:**

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**TOTAL:** 16 hours

### **PREREQUISITES:**

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Certificate of NR10 Basic Electricity (40 hours) previously done.

### **MINIMUM/MAXIMUM NUMBER OF DELEGATES:**

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This course requires a minimum of 1, and a maximum number of 12 trainees.

To offshore trainings, the course number of trainees will comply with the vessels/rig necessity.

## **MAIN SAFETY ISSUES:**

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- Special cares with tools that are used in energized machinery;
- Selection, inspection and use of related tools and PPEs;
- Individual and Collective measures of protection against electricity;
- Risk evaluation in the workplace;
- Risk Control in the workplace;
- Distractions and fatalities;
- Electricity Detection.

## **REQUIRED EQUIPMENT:**

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- Switchboards;
- Access to Generators room (recommended);
- Access to Transformers room (recommended);
- Electrical Rescue Hook.

## **PROCEDURES FOR PRACTICAL EXERCISES:**

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- Demonstration on how to use the rescue hook;
- How to identify equipment Voltage and define safe distances according to NR-10 Annex I;
- Safety visit to electrical equipment areas to reinforce the importance to keep distance from all equipment and explain the importance of PPE use: Gloves, coveralls, insulated tools;

## **CERTIFICATION:**

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Training certificate signed by responsible Engineer accredited by Brazilian CREA.

## **CERTIFICATE VALIDITY PERIOD:**

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2 years.