
Overview

This standard is about diagnosing and determining the causes of faults in instrumentation and control equipment and systems in engineering construction plant, and then determining if there is the potential to repair the fault and if so, if it is viable to repair it.

You will need to complete fault diagnosis and determine the implications of the fault whilst adhering to health, safety and environmental legislation, regulations and safe working practices.

In the context of this standard, your responsibility is to interpret and work within given specifications, selecting methods and techniques to achieve the best possible result. In some cases, you may still be expected to refer to others for final authorisation, even though you remain responsible for identifying and implementing decisions.

Who this standard is for

This standard is for instrumentation and control maintenance technicians.

Performance criteria

You must be able to:

1. work safely at all times, complying with health, safety, environmental and other relevant legislation, regulations, guidelines and local rules or procedures
2. ensure that the **work environment**, material, tools and equipment are suitably prepared for the work activities to be undertaken including safely undertaking isolations and disconnections
3. review and use all relevant information on the symptoms and problems associated with the instrumentation and control components, equipment and systems
4. select, use and apply diagnostic techniques, tools and aids to locate faults
5. complete the fault diagnosis as required
6. determine the implications of the fault in relation to: * related equipment * related process * health and safety * and the escalation process
7. use the evidence from the diagnosis along with consideration of the implications of the fault in order to draw valid conclusions about the nature and probable cause of the fault
8. record details on the extent and location of the faults in an appropriate format
9. determine what work is required to bring the instrumentation and controls component, equipment or system back to the specified condition, taking into account the level of wear or damage and the conclusions about the nature and probable cause of the fault in order to determine: * the potential for repairing it * the viability of repairing it
10. **reinststate the work area**
11. deal promptly and effectively with problems within your control and report those that have been and those that cannot be solved

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Knowledge and understanding

You need to know and understand:

1. relevant legislative, regulatory and local requirements or procedures and safe working practices including your responsibilities with regard to reporting lines and procedures 2. preparation and reinstatement requirements in respect of the work area, material, tools and equipment, isolations and disconnections, and the possible consequences of incorrect actions in these areas 3. how to source and use relevant information on the symptoms and problems associated with the instrumentation and control components, equipment and systems 4. the main techniques for fault finding and the equipment used 5. the logical process of fault diagnosis and the principles and uses of diagnostic aids 6. how to interpret the information and fault found and the: * likely root cause(s) * the potential consequences associated with it * potential corrective or preventative action 7. how to determine if it feasible to repair the instrumentation and control component(s), equipment or system 8. procedures for recording the fault and diagnosis 9. tool and equipment control: the correct use of relevant tools and equipment and your individual responsibility for the use, care and security of those you use

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Scope/range