|  |  |
| --- | --- |
| Overview | This standard covers the competence to operate and make adjustments to the electrical propulsion systems on board, in accordance with appropriate procedures, safety rules and regulations. It covers preparing electrical propulsion and auxiliary machinery for operation, locating common faults and identifying the action required to prevent any damage from occurring, and making adjustments to maintain operation of the systems within identified (optimum) parameters.  **Target group**  This standard applies to individuals working on board commercial vessels with responsibility for engineering officers at the management level and electro-technical operations at the operational level. |

|  |  |
| --- | --- |
| **Performance criteria**  You must be able to: | 1. prepare and operate electrical propulsion and auxiliary machinery in accordance with established safety rules, regulations and operating instructions to prevent damage 2. prepare electrical propulsion and auxiliary machinery and control systems in the required sequence and timescale 3. carry out the required checks, start up and shut down the electrical propulsion and auxiliary machinery 4. monitor and accurately assess the condition of the electrical propulsion and auxiliary machinery in accordance with schedules, operating requirements and instructions and maintain operating conditions within given limits 5. adjust the electrical propulsion and auxiliary machinery output to meet bridge orders and vessel requirements 6. identify, take appropriate action on and report malfunctions 7. carry out emergency shut down and isolating procedures to ensure vessel and machinery safety 8. operate the electrical propulsion and auxiliary machinery in contingency situations, including the failure of remote control systems 9. inform relevant personnel of the operations to enable them to continue their responsibilities safely |

|  |  |
| --- | --- |
| Knowledge and understanding  You need to know and understand: | 1. the working principles and constructional details of electrical propulsion and auxiliary machinery and control systems 2. planning of operations, planning methods, sources of information – statutory, company and manufacturers 3. the main duties and responsibilities of shipboard personnel, delegation of responsibilities in the machinery space and the level of supervision required by individuals 4. the operational checks and procedures to operate each individual propulsion and ancillary system and how to bring each individual system to state of readiness 5. the location, cause and effects of common faults in electrical propulsion and auxiliary machinery and control systems and action necessary to prevent damage 6. the permitted range, effects of adjustments and consequence of deviation beyond specified range to electrical propulsion and auxiliary machinery and control systems 7. the operation of electrical propulsion and auxiliary machinery in the event of failure of remote control systems 8. the shutting down of systems and equipment on completion of operations 9. the use of internal communication systems, communicating with engine room and bridge personnel and effective forms of communication 10. the importance and use of records for commercial and legislative purposes 11. the application of Statutory Regulations and guidelines, organisational instructions and guidance and vessel contingency plans |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Developed by** | Maritime Skills Alliance | | **Version number** | 2 | | Date approved | January 2012 | | Indicative review date | December 2016 | | Validity | Current | | Status | Original | | Originating organisation | Skills for Justice | | Original URN | MSA C14 | | Relevant occupations | Engineer | | Suite | Maritime | | Key words | Vessel; ship; electric; electronic; propulsion; system; auxiliary; machinery; operate; maintain | |  |
|  |  |
|  |  |
|  |  |
|  |  |