|  |  |
| --- | --- |
| Overview | This standard covers the competence to plan and control marine main propulsion machinery and ancillary systems. Procedures and changes are made to minimise the risk of damage to the machinery and disruption of operations and in accordance with the requirements and limits for vessel safety.  It includes the start up, shut down and meeting changes in demand of propulsion machinery, optimising the output of marine main propulsion machinery and maintaining the safety of the plant, systems and services for all modes of operation including contingencies and emergencies.  **Target Group**  This standard applies to individuals at a management level with responsibility for planning and controlling the operation of main propulsion machinery on merchant vessels or fishing vessels.  It applies to all types of main propulsion machinery with separate or integrated ancillary systems. |

|  |  |
| --- | --- |
| **Performance criteria**  You must be able to: | 1. prepare a plan and carry out operations to achieve marine main propulsion machinery conditions in accordance with established safety rules and regulations, and environmental protection 2. control the preparation of the machinery, associated equipment and control systems for operation, including ensuring the availability of required process fluids and consumables 3. control the start up, operation and shut down of the machinery and systems in the correct sequence required by the actual condition of the machinery 4. monitor, establish and maintain plant performance and capacity in accordance with established technical specifications, safety rules and regulations and bridge orders 5. identify deviations, malfunctions and faults and take appropriate action 6. control the adjustment of machinery conditions and methods to minimise the risk of machinery damage and disruption to operations 7. ensure that arrangements for safe operation and condition of the machinery installation are maintained for all emergencies including emergency shut down 8. ensure that arrangements for safe and efficient operation and condition of the machinery installation are maintained for contingency situations including the failure of remote control systems 9. communicate revised operating conditions to all those affected and define clearly the times and occasions when to seek assistance 10. ensure that reports are made to all relevant organisational and regulatory parties within an appropriate timescale |

|  |  |
| --- | --- |
| Knowledge and understanding  You need to know and understand: | 1. the preparation, start up operation and shut down of marine main propulsion machinery, ancillary and control systems 2. the safe operation of marine main propulsion machinery in all modes of control 3. the assessment and evaluation of marine main propulsion machinery power and efficiency 4. the normal plant parameters, operating limits and running adjustments to maintain performance 5. the limiting values for safe operation of main propulsion machinery outside normal operating parameters 6. the safe and efficient operation and maintenance of fuel and ballast systems to prevent pollution of the marine environment 7. the construction and operation of pollution prevention equipment and systems 8. the use of internal communication systems, communicating with engine room and bridge personnel and effective forms of communication 9. statutory and organisational reporting requirements 10. the importance and use of records for commercial and legislative purposes 11. how to evaluate and apply 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 | Decemeber 2016 |
| Validity | Current |
| Status | Original |
| Originating organisation | Skills for Justice |
| Original URN | MSA C21 |
| Relevant occupations | Engineer |
| Suite | Maritime |
| Key words | Plan; control; main propulsion machinery; ancillary systems; minimise risk; vessel; safety |