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| Overview | This standard covers the competence required to direct towing operations on board tug. It includes planning the tow, controlling and manoeuvring during the towing operation and maintaining communications with the crew and the towed vessel, in all conditions.  **Target Group**  This standard applies to individuals at the managerial level with responsibility for directing tug operations on any size vessel working in any operational area. |

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| **Performance criteria**  You must be able to: | 1. plan tug operations considering the relevant factors and using reliable and up-to- date information 2. determine and obtain the required resources to carry out the operation 3. agree the operational plans and inform the appropriate personnel 4. supervise the plans to ensure operations are carried out in a safe manner, allocating work to the appropriate personnel and giving instructions to optimise the efficiency of the towing operation 5. identify and resolve problems and irregularities to avoid disruption of operations and apply contingency procedures in the event of malfunction to minimise risk to the equipment and maximise the success of the operation 6. select the most suitable control position and steering mode for the operation area of navigation in the prevailing conditions in order to manoeuvre the tug safely and keep the tug and tow in safe water 7. maintain the required tug heading and speed necessary for the operation, taking account of the area of navigation and the existing sea state, and make controlled alterations to the heading smoothly and with minimal overshoot 8. maintain the safe operating limits of the vessel propulsion, steering and power systems during normal operations 9. make any emergency manoeuvres promptly to minimise risk to personnel, tug, equipment and the operation 10. direct the correct connection and disconnection of the tow 11. ensure the working area is maintained in a safe condition ? throughout the operation and that equipment for the operation is handled in a safe and controlled manner 12. ensure procedures for the emergency operation of towing equipment are implemented and comply fully with contingency plans and minimise the risk to personnel 13. confirm that the shut down and securing of equipment complies with manufacturers' instructions and operational requirements 14. maintain links with the vessel being towed and select the most suitable method and system available for the required link for the existing circumstances and conditions 15. transmit and receive radio communications in accordance with ITU regulations and procedures and comply with port installation requirements 16. communicate effectively and efficiently and maintain appropriate records of communications |

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| Knowledge and understanding  You need to know and understand: | 1. how to plan for and provide towing and associated services for normal operations, contingencies and combined tows 2. how to plan and provide for fire fighting services, anti pollution and pollution control services 3. manoeuvring characteristics of tugs and acceptable manoeuvres to execute the plan 4. the overall principles involved in towing operations and procedures for normal operation 5. tug and equipment construction with respect to performance when operating on or near the limits of performance 6. the effects that failure or mal-operation of equipment may have on the tug 7. the effects of different hull forms on manoeuvring 8. propulsion control systems and the type of response 9. how equipment must be operated 10. which contingency procedures to apply in towing emergencies and how to apply them 11. how to delegate tasks to crew members 12. how to communicate using VHF radio and sound signals 13. the likely effects of different winds, sea states, tides and currents on the tug and tow 14. emergencies that may arise – e.g towrope breaking, hook malfunctions, GOG malfunction, winch malfunction, main engine malfunction 15. the effects of the various propulsion systems on manoeuvring 16. interaction, its cause and its effects 17. how to evaluate and apply Statutory Regulations and guidelines, organisational instructions and guidance and vessel contingency plans |

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