

**SKILLS FRAMEWORK FOR SEA TRANSPORT
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Marine Surveying					
TSC	Ship Propulsion Inspections					
TSC Description	Inspect ship propulsion systems as part of marine surveys					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
				STP-MSU-4004-1.1	STP-MSU-5004-1.1	
				Conduct marine surveys on ship propulsion systems	Oversee and review survey findings for ship propulsion systems	
Knowledge				<ul style="list-style-type: none"> • Ship design and engine room layout • Types of engines, their components and working principles, including: <ul style="list-style-type: none"> ○ Main means of propulsion ○ Power transmission, boilers, feed systems, piping systems and pumps, purifiers and gas exchange systems ○ Fuel and fuel systems ○ Lubricants and lubricant systems ○ Cooling systems ○ Starting air systems ○ Shafting and propellers ○ Safety and operation • Maintenance methods of ship's machinery: <ul style="list-style-type: none"> ○ Refrigeration, air-conditioning and ventilation ○ Deck machinery and equipment ○ Electricity and electrical equipment 	<ul style="list-style-type: none"> • Survey procedures and performance measures • Ship design and engine room layout • Types of engines, their components and working principles, including: <ul style="list-style-type: none"> ○ Main means of propulsion ○ Power transmission, boilers, feed systems, piping systems and pumps, purifiers and gas exchange systems ○ Fuel and fuel systems ○ Lubricants and lubricant systems ○ Cooling systems ○ Starting air systems ○ Shafting and propellers ○ Safety and operation of diesel engines • Maintenance methods of ship's machinery: <ul style="list-style-type: none"> ○ Refrigeration, air-conditioning and ventilation ○ Deck machinery and equipment 	

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				<ul style="list-style-type: none"> ○ Bridge control and emergency systems • Workplace Safety and Health (WSH) policies, procedures and regulations 	<ul style="list-style-type: none"> ○ Electricity and electrical equipment ○ Bridge control and emergency systems • Workplace Safety and Health (WSH) policies, procedures and regulations 	
Abilities				<ul style="list-style-type: none"> • Identify and confirm requirements for inspecting propulsion systems and detecting faults • Conduct surveys of marine engines and engine operating principles • Interpret safety data sheets and material data sheets • Observe tests carried out on auxiliary machinery and systems • Interpret machinery performance readings • Inspect faulty equipment on vessels • Report routine problems that relate to auxiliary machinery and systems on vessels • Apply relevant WSH policies and procedures when carrying out marine surveys 	<ul style="list-style-type: none"> • Review and validate survey findings and necessary follow-up actions • Troubleshoot issues arising from marine engine surveys • Ensure compliance with WSH policies, procedures and regulations when carrying out marine surveys • Conduct random checks to confirm survey findings 	