

Record of Assessment

for

Electro-Technical Officer on Vessels Powered by Main Propulsion Machinery of 750 kW/1,000 HP or More

Candidate's Name

Candidate's Signature

Mariner Reference No.

RECORD OF ASSESSMENT**Electro-Technical Officer on Vessels Powered by Main Propulsion Machinery of 750 kW/1,000 HP or More**

NOTE TO QUALIFIED ASSESSOR(S): In performing your function as a qualified assessor, you may use your initials to indicate that you have personally witnessed the demonstration of skill or ability by the person being assessed. The Assessment Guidelines in Enclosure (2) will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/6 of the STCW Code. The use of these Assessment Guidelines is not mandatory and alternative means of having achieved the standards of competence in the STCW Code will be considered. In accordance with 46 CFR 11.301(a)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

STCW Competence	Knowledge, Understanding, and Proficiency	Task No.	Task	Assessor's Initials	Date
Monitor the operation of electrical, electronic and control systems	Basic understanding and knowledge of the operation of mechanical engineering including prime movers including main propulsion plant	1.1.A	Monitor electrical, electronic, and control systems related to diesel, steam, or gas turbine propulsion		
		1.1.B	Monitor electrical, electronic, and control systems related to turbo-electric propulsion		
	Basic understanding and knowledge of the operation of mechanical engineering systems including engine room auxiliary machinery	1.2.A	Monitor electrical, electronic, and control systems operations, related to auxiliary and ancillary machinery		
	Basic understanding and knowledge of the operation of mechanical engineering systems including steering systems	1.3.A	Monitor electrical, electronic, and control systems operations, related to steering systems		
	Basic understanding and knowledge of the operation of mechanical engineering systems including cargo handling systems	1.4.A	Monitor electrical, electronic, and control systems operations, related to cargo handling systems		
	Basic understanding and knowledge of the operation of mechanical engineering systems including deck machinery	1.5.A	Monitor electrical, electronic, and control systems operations, related to deck machinery		
	Basic understanding and knowledge of the operation of mechanical engineering systems including hotel systems	1.6.A	Monitor electrical, electronic, and control systems operations, related to hotel systems		
	Basic understanding and knowledge of the operation of mechanical engineering systems	1.7.A	Monitor electrical, electronic, and control systems operations, related to bridge navigation equipment and systems		
	Knowledge of hazards and precautions required for operation of power systems above 1,000 volts	1.8.A	Monitor electrical, electronic, and control systems operations, related to high voltage power systems		

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STCW Competence	Knowledge, Understanding, and Proficiency	Task No.	Task	Assessor's Initials	Date
Monitor operation of automatic control systems of propulsion and auxiliary machinery	Preparation of control systems of propulsion and auxiliary machinery for operation	2.1.A	Surveillance of the main propulsion and auxiliary machinery control systems		
Operate generators and distribution systems	Coupling, load sharing, and changing over generators.	3.1.A	Operation of electrical generation and distribution systems		
	Coupling and breaking connection between switchboards and distribution panels	3.1.B	Operation of electrical distribution control systems		
Operate and maintain power systems in excess of 1,000 volts	Theoretical knowledge of high-voltage technology and safety precautions and procedures	4.1.A	Describe the technology and safety precautions of a high-voltage power system		
	Theoretical knowledge of electrical propulsion, electric motors and control systems	4.1.B	Describe the operation of a high-voltage main propulsion power system		
		4.1.C	Operation and maintenance of high-voltage systems		
Operate computers and computer networks on ships	Understanding of main features of data processing; construction and use of computer networks on ships; and bridge based, Engine room based and commercial computer use	5.1.A	Data processing, computer networks and specialized applications of computer use onboard ships		
Use English in written and oral form	Adequate knowledge of the English language, in written forms and oral forms to enable the officer to use engineering publications and to perform officer's duties	6.1.A	Use and understand the English language in performance of shipboard duties		
Use internal communication systems	Operation of all internal communication components and systems on board	7.1.A	Operate shipboard communications components and systems		
Maintenance and repair of electrical and electronic equipment	Safety requirements for working on shipboard electrical systems, including the safe isolation of electrical equipment required before personnel are permitted to work on such equipment	8.1.A	Safety procedures performed on electrical machinery and equipment prior to, during and after maintenance operations		

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Maintenance and repair of electrical and electronic equipment	Maintenance and repair of AC electrical systems equipment, switchboards, electric motors, generators, and DC electrical systems, equipment and motors	8.2.A	Safe use of tools and instruments related to the maintenance and repair of electrical and electronic equipment			
		8.2.B	Dismantle, inspect, repair, and reassemble electronic equipment			
		8.2.C	Electronic equipment testing procedures			
		Detection of electrical malfunctions, location of faults, and measures to prevent damage	8.3.A	Troubleshooting and fault detection		
		Construction and operation of electrical testing and measuring equipment	8.4.A	Use of electrical testing and measuring equipment		
		Function and performance tests of monitoring systems; automatic control devices; and protective devices	8.5.A	Test automatic control, parameter measuring, and system protective devices		
		The interpretation of schematics and electronic diagrams	8.6.A	Interpret electrical schematics, and electronic controls and logic diagrams		
Maintenance and repair of automation and control systems of main propulsion and auxiliary machinery	Appropriate electrical and mechanical knowledge and skills	9.1.A	Procedures prior to work and during maintenance and repair of automation and control systems of main propulsion and auxiliary machinery and equipment			
	Safe isolation of equipment and associated systems required before personnel are permitted to work on such plant equipment					
	Practical knowledge for the testing, maintenance, fault finding and repair	9.2.A	Troubleshooting, fault location and actions for repair of automation and control systems for main propulsion and auxiliary machinery equipment			
	Test, detect faults and maintain and restore electrical and electronic control equipment to operating condition					

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STCW Competence	Knowledge, Understanding, and Proficiency	Task No.	Task	Assessor's Initials	Date
Maintenance and repair of bridge navigation equipment and ship communication systems	Knowledge of the principles and maintenance procedures of navigation equipment, internal and external communication systems Knowledge of electrical and electronic systems operating in flammable areas	10.1.A	Operation and maintenance of bridge communication and navigational equipment.		
	Knowledge of the principles and maintenance procedures of navigation equipment, internal and external communication systems Carrying out safe maintenance and repair procedures Detection of machinery malfunction, location of faults and action to prevent damage	10.2.A	Fault detection and isolation, dismantling, and reassembly of navigation and communication systems equipment.		
Maintenance and repair of electrical, electronic and control systems of deck machinery and cargo handling equipment	Appropriate electrical and mechanical knowledge and skills Safe isolation of equipment and associated systems required before personnel are permitted to work on such plant or equipment Practical knowledge for the testing, maintenance, fault finding and repair Test, detect faults and maintain and restore electrical and electronic control equipment to operating condition	11.1.A	Maintain and repair automation and control systems of deck and cargo handling machinery		
Maintenance and repair of control and safety systems of hotel equipment.	<i>Theoretical knowledge</i> of electrical and electronic systems operating in flammable areas Carrying out safe maintenance and repair procedures Detection of machinery malfunction, location of faults and action to prevent damage	12.1.A	Maintain and repair automation and control systems of hotel equipment		

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Ensure compliance with pollution prevention requirements	Knowledge of the precautions to be taken to prevent pollution of the marine environment	13.1.A	Precautions to be taken to prevent pollution of the marine environment		
	Anti-pollution procedures and all associated equipment	13.1.B	Anti-pollution procedures and all associated equipment		
	Importance of proactive measures to protect the marine environment	13.1.C	Pollution prevention procedures and equipment		
Prevent, control and fight fire on board	Fire prevention and fire fighting appliances. Ability to organize fire drills Knowledge of classes and chemistry of fire Knowledge of fire fighting systems Actions to be taken in the event of a fire, including fires involving oil systems	14.1.A	Firefighting	COURSE	
Operate life saving appliances	Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and equipment, including radio life saving appliances, satellite EPIRBs, SARTs, immersion suits, and thermal protective aids	15.1.A	Life-saving	COURSE	
Apply medical first aid on board ship	Practical application of medical guides and advice by radio including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship	16.1.A	Medical First Aid	COURSE	
Application of leadership and team working skills	Working knowledge of shipboard personnel management and training	17.1.A	Duties and responsibilities of vessel personnel		
	Ability to apply task and workload management	17.1.B	Generate a work plan.		
	Knowledge and ability to apply effective resource management	17.1.C	Execute a work plan		
	Knowledge and ability to apply decision making techniques	17.1.D	Supervise an emergency team		

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Contribute to the safety of personnel and ship	Knowledge of personal survival techniques Knowledge of fire prevention and ability to fight and extinguish fires Knowledge of elementary first aid Knowledge of personal safety and social responsibilities	18.1.A	Basic training	COURSE	

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Qualified Assessors (QAs) witnessing the successful demonstrations noted in this record should provide the information below relative to their service with the candidate. Prospective QAs should have at least 1 year of experience as Chief Engineer or Second Engineer Officer (national First Assistant Engineer) on seagoing vessels of at least 750 kW (1,000 HP). For assessments signed on a military vessel, the assessor should have experience as Chief Engineering Officer on seagoing vessels of at least 750 kW/1,000 HP or more. Military assessors should only conduct assessments that are within their personal experience and are relevant to the vessel on which they are conducted. After December 31, 2021, QAs must be approved by the National Maritime Center (46 CFR 10.107). Qualified military personnel will not need to be approved as QAs and may continue to sign assessments on military vessels after December 31, 2021.

Vessel Name and Propulsion Mode	Propulsion Power	Dates of Service		Assessor Name	Assessor Signature	Sample Assessor Initials	Assessor Mariner Reference No.	Assessor Shipboard Position
		From	To					
M/V Handy Boy Motor	9,876 HP	7/7/2018	11/14/2018	Ignatius J. Reilly	<i>Ignatius J. Reilly</i>	<i>IR</i>	1234567	Chief Engineer

 Print Name of Candidate
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