

Minimum standard of competence in advanced training for oil tanker cargo operations (STCW Reg V/1-1)

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Ability to safely perform and monitor all cargo operations</p>	<p><i>Design and characteristics of an oil tanker</i></p> <p>Knowledge of oil tanker design, systems and equipment, including:</p> <ul style="list-style-type: none"> .1 general arrangement and construction .2 pumping arrangement and equipment .3 tank arrangement, pipeline system and tank venting arrangement .4 gauging systems and alarms .5 cargo heating systems .6 tank cleaning, gas-freeing and inerting systems .7 ballast system .8 cargo area venting and accommodation ventilation .9 slop arrangements .10 vapour recovery systems .11 cargo-related electrical and electronic control system .12 environmental protection equipment, including Oil Discharge Monitoring Equipment (ODME) 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training .4 approved training programme 	<p>Communications are clear, understood and successful</p> <p>Cargo operations are carried out in a safe manner, taking into account oil tanker designs, systems and equipment</p> <p>Cargo operations are planned, risk is managed and carried out in accordance with accepted principles and procedures to ensure safety of operations and avoid pollution of the marine environment</p> <p>Potential non-compliance with cargo-operation-related procedures is promptly identified and rectified</p> <p>Proper loading, stowage and unloading of cargoes ensures that stability and stress conditions remain within safe limits at all times</p> <p>Actions taken and procedures followed are correctly applied and the appropriate shipboard cargo-related equipment is properly used</p> <p>Calibration and use of monitoring and gas-detection equipment comply with operational practices and procedures</p>

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<p>Ability to safely perform and monitor all cargo operations (<i>continued</i>)</p>	<p>.13 tank coating</p> <p>.14 tank temperature and pressure control systems</p> <p>.15 fire-fighting systems</p> <p>Knowledge of pump theory and characteristics, including types of cargo pumps and their safe operation</p> <p>Proficiency in tanker safety culture and implementation of safety-management system</p> <p>Knowledge and understanding of monitoring and safety systems, including the emergency shutdown</p> <p><i>Loading, unloading, care and handling of cargo</i></p> <p>Ability to perform cargo measurements and calculations</p> <p>Knowledge of the effect of bulk liquid cargoes on trim, stability and structural integrity</p> <p>Knowledge and understanding of oil cargo-related operations, including:</p> <p>.1 loading and unloading plans</p> <p>.2 ballasting and deballasting</p> <p>.3 tank cleaning operations</p> <p>.4 inerting</p> <p>.5 gas-freeing</p>		<p>Procedures for monitoring and safety systems ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures</p>

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Ability to safely perform and monitor all cargo operations <i>(continued)</i>	.6 ship-to-ship transfers .7 load on top .8 crude oil washing Development and application of cargo-related operation plans, procedures and checklists Ability to calibrate and use monitoring and gas-detection systems, instruments and equipment Ability to manage and supervise personnel with cargo-related responsibilities		Personnel are allocated duties and informed of procedures and standards of work to be followed, in a manner appropriate to the individuals concerned and in accordance with safe operational practices
Familiarity with physical and chemical properties of oil cargoes	Knowledge and understanding of the physical and chemical properties of oil cargoes Understanding the information contained in a Material Safety Data Sheet (MSDS)	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training .4 approved training programme	Effective use is made of information resources for identification of properties and characteristics of oil cargoes and related gases, and their impact on safety, the environment and vessel operation

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Take precautions to prevent hazards	<p>Knowledge and understanding of the hazards and control measures associated with oil tanker cargo operations, including:</p> <ul style="list-style-type: none"> .1 toxicity .2 flammability and explosion .3 health hazards .4 inert gas composition .5 electrostatic hazards <p>Knowledge and understanding of dangers of non-compliance with relevant rules/regulations</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training .4 approved training programme 	<p>Relevant cargo-related hazards to the vessel and to personnel associated with oil tanker cargo operations are correctly identified, and proper control measures are taken</p>
Apply occupational health and safety precautions	<p>Knowledge and understanding of safe working practices, including risk assessment and personal shipboard safety relevant to oil tankers:</p> <ul style="list-style-type: none"> .1 precautions to be taken when entering enclosed spaces, including correct use of different types of breathing apparatus .2 precautions to be taken before and during repair and maintenance work .3 precautions for hot and cold work .4 precautions for electrical safety .5 use of appropriate Personal Protective Equipment (PPE) 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training .4 approved training programme 	<p>Procedures designed to safeguard personnel and the ship are observed at all times</p> <p>Safe working practices are observed and appropriate safety and protective equipment is correctly used</p> <p>Working practices are in accordance with legislative requirements, codes of practice, permits to work and environmental concerns</p> <p>Correct use of breathing apparatus</p> <p>Procedures for entry into enclosed spaces are observed</p>

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Respond to emergencies	<p>Knowledge and understanding of oil tanker emergency procedures, including:</p> <ul style="list-style-type: none"> .1 ship emergency response plans .2 cargo operations emergency shutdown .3 actions to be taken in the event of failure of systems or services essential to cargo .4 fire-fighting on oil tankers .5 enclosed space rescue .6 use of a Material Safety Data Sheet (MSDS) <p>Actions to be taken following collision, grounding, or spillage</p> <p>Knowledge of medical first aid procedures on board oil tankers</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training .4 approved training programme 	<p>The type and impact of the emergency is promptly identified and the response actions conform with established emergency procedures and contingency plans</p> <p>The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem</p> <p>Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly</p> <p>The identification of and actions taken in a medical emergency conform to current recognized first aid practice and international guidelines</p>
Take precautions to prevent pollution of the environment	<p>Understanding of procedures to prevent pollution of the atmosphere and the environment</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training .4 approved training programme 	<p>Operations are conducted in accordance with accepted principles and procedures to prevent pollution of the environment</p>

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Monitor and control compliance with legislative requirements	Knowledge and understanding of relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL), as amended, and other relevant IMO instruments, industry guidelines and port regulations as commonly applied	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training .4 approved training programme	The handling of cargoes complies with relevant IMO instruments and established industrial standards and codes of safe working practice

