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Item 10 of the provisional agenda

Mutual recognition of boatmasters' certificates and harmonization of professional requirements in inland navigation

Revision of resolution No. 31: Standards for practical examinations

Note by the secretariat*

Mandate

1. This document is submitted in line with the Proposed Programme Budget for 2020, part 5, Regional cooperation for development, section 20, Economic Development in Europe. Programme 17, Economic Development in Europe (A/74/6 (Sect. 20) and Supplementary).
2. At its fifty-fourth session, the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation decided to consider updating the annex to resolution No. 31, revised, and asked the secretariat to hold consultations with the European Committee for drawing up standards in the field of inland navigation (CESNI) on this issue (ECE/TRANS/SC.3/WP.3/108, paras. 37-38).
3. In 2018, CESNI adopted a set of standards for qualifications in inland navigation professional requirements, called the European Standard for Qualification in Inland Navigation (ES-QIN).** Annexes I–V to this document contain the standards for practical examinations for obtaining (a) specific authorization for sailing with the aid of radar; (b) certificate of qualification as a passenger navigation expert; (c) certificate of qualification as a liquefied natural gas (LNG) expert; (d) certificate of qualification as a boatmaster as well as standards for the additional module on supervision in the context of the practical examination for obtaining a certificate of qualification as a boatmaster*** which could be used as the basis for updating resolution No. 31.

* This document was scheduled for publication after the standard publication date owing to circumstances beyond the submitter's control.

** www.cesni.eu/en/documents/es-qin-2018.

*** See ES-QIN, Part II "Standards for practical examinations", chapters 1–5.



Annex I

Standards for the practical examination for obtaining a specific authorisation for sailing with the aid of radar (Resolution CESNI 2018-II-9)

1. Specific competences and assessment situations

Examiners are free to decide about the content of the individual examination elements.

Examiners shall test elements 1-16 and at least one of the elements 17 to 19. Applicants must reach a minimum of 7 out of 10 points in each element.

N°	Competences	Examination elements
1	1.1	switch on, adjust and control the functioning of navigational radar installations;
2	1.1	switch on, adjust and control the functioning of rate-of-turn indicator;
3	1.1	interpret the radar display correctly by setting the range, resolution, brightness, gain, contrast, other connected apparatus, center and tune;
4	1.1	use the rate-of-turn indicator e.g. by setting the rate-of-turn in accordance with maximum rate-of-turn of the craft;
5	2.1	identify the position of the antenna on the screen and the heading line, the setting of position, course and turning direction of the own craft and the determining distances and reach;
6	2.2	interpret the behaviour of other traffic participants (stationary craft, oncoming craft and craft heading the same direction);
7	2.2	analyze the information supplied by radar such as heading line, electronic bearing line, range rings, and variable range marker, target trails, decentering and parallel lines and to explain the radar picture;
8	3.1	reduce disturbances coming from the own craft by checking antenna, by reducing shadows and multiple reflections e. g. in the area of holds;
9	3.2	take action to reduce disturbances from the environment by reducing influence from rain and waves, by correctly dealing with scattered fields (e.g. from bridges), false/ghost echoes from power transmission lines and cables as well as with shadowing and multipath effects;
10	3.3	remove disturbances coming from other navigational radar installations by using interference rejection;
11	4.1	correctly attribute tasks to deck crew members;
12	4.1	ensure co-operation between the person at helm and the person using navigational radar installations according to visibility and the features of the wheelhouse;
13	4.1	use rate-of-turn indicators and inland ECDIS or similar displays in combination with radar;
14	4.1	act according to police regulations in case of reduced visibility and in case of good visibility;
15	4.1	use radio, sound signals and to agree on course by using information supplied by radar;

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>
16	4.1	give commands to the person at helm including checking the person's required knowledge and skills
17	5.1	take appropriate measures in high traffic density;
18	5.1	take appropriate measures in the case of failure of devices;
19	5.1	react appropriately in unclear or dangerous traffic situations.

2. Technical requirements for craft used for practical examination

A craft used for a practical examination shall be covered by Article 2 of Directive (EU) 2017/2397.

Craft used for practical exams to assess the competence of a boatmaster sailing with aid of radar shall fulfil the technical requirement laid down in Article 7.06 of standard ES-TRIN 2017/1. Craft shall be equipped with an operable inland ECDIS or a comparable device for displaying electronic charts.

Annex II

Standards for the practical examination for obtaining a certificate of qualification as a passenger navigation expert (Resolution CESNI 2018-II-10)

1. Specific competences and assessment situations

Examiners are free to decide about the content of the individual examination elements.

Examiners shall test 11 out of 14 category I elements, provided that: element 16 and element 20 are assessed.

Examiners shall test 7 out of 8 category II elements.

Applicants can reach 10 points in each element as a maximum result.

For category I, applicants must reach a minimum of 7 out of 10 points in each element.

For category II, applicants must reach a minimum total score of 45 points.

N°	Competences	Examination elements	Category I-II
1	1.1	demonstrate the use of lifebuoys for passengers;	I
2	1.1	demonstrate the use of lifejackets for passengers and deck crew members and shipboard personnel including specific individual life-saving equipment for persons not undertaking duties for the safety rota;	I
3	1.1	demonstrate the use of appropriate equipment for evacuation to shallow water, to the bank or to another craft;	I
4	1.1	demonstrate the use of ship's boats including its engine and searchlight or platform according to Article 19.15 ES-TRIN ¹ 2017/1 replacing the ship's boat or collective life-saving appliances according to Article 19.09(5) to (7) ES-TRIN 2017/1;	I
5	1.1	demonstrate the use of suitable stretcher;	I
6	1.1	demonstrate the use of first aid kits;	I
7	1.1	demonstrate the use of self-contained breathing apparatus sets and sets of equipment as well as smoke hoods according to Article 19.12(10) ES-TRIN 2017/1 or a combination thereof;	I
8	2.1	check and monitor inspection intervals for the equipment mentioned in no 1 - 7 of this table;	II
9	2.1	check and monitor the necessary qualification of persons using first aid kits and self-contained breathing apparatus sets and sets of equipment as well as smoke hoods;	II
10	2.1	stow appropriately and distribute life-saving appliances;	I
11	2.3	identify areas accessible for passengers with reduced mobility;	II
12	1.1	demonstrate the use of life-saving equipment for passengers with reduced mobility;	I
13	2.1	explain elements of the safety rota and the safety plan;	II

¹ European Standard laying down technical requirements for inland navigation vessels.

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>	<i>Category I-II</i>
14	2.1	attribute tasks to shipboard personnel according to safety rota and safety plan;	II
15	2.3	attribute tasks to shipboard personnel with regard to non-discriminatory access and safety rota planning for passengers with reduced mobility;	II
16	2.3	organize training and instructions for persons with reduced mobility according to Annex IV to Regulation (EU) No 1177/2010;	I
17	2.2	organize the evacuation of a passenger area explaining specific measures to take in case of collision, running aground, smoke and fire;	I
18	2.2	fight incipient fire and handle waterproof and fire-retardant doors;	I
19	2.2	provide necessary information to the boatmaster, passengers and external rescue forces in a simulated emergency;	II
20	3.1	use elementary English vocabulary and pronounce wording suited to guide passengers and shipboard personnel in standard situations and to alert and guide them in the event of emergencies;	I
21	4.1	explain which passenger rights are applicable;	I
22	4.1	implement applicable procedures to provide access and professional assistance to passengers according to Regulation (EU) No. 1177/2010.	II

2. Technical requirements for craft and shore installation used for practical examination

The location where the assessment is taking place shall be equipped with life-saving equipment for passenger vessels necessary to demonstrate examination element no 2 including specific life-saving equipment for cabin vessels according to the applicable ES-TRIN 2017/1. It shall be equipped with a safety rota and a safety plan complying with ES-TRIN 2017/1 and suitable spaces and equipment to assess the ability to organize evacuation and behaviour to fight and react in case of a fire.

A craft used for a practical examination shall be covered by Article 2 of Directive (EU) 2017/2397.

Annex III

Standards for the practical examination for obtaining a certificate Chapter 3: Standards for the practical examination for obtaining a certificate of qualification as a liquefied natural gas (LNG) expert (Resolution CESNI 2018-II-11)

1. Specific competences and assessment situations

Examiners are free to decide about the content of the individual examination elements.

Examiners shall test 9 out of 11 category I elements.

Examiners shall test 5 out of 7 category II elements.

Applicants can reach 10 points in each element as a maximum result.

For category I, applicants must reach a minimum of 7 out of 10 points in each tested element.

For category II, applicants must reach a minimum total score of 30 points.

N°	Competences	Examination elements	Category I-II
1	1.1	instruct and monitor crew member operations in order to ensure compliance with legislation and standards applicable to craft using LNG as a fuel on board the craft and in particular with the bunkering procedure;	II
2	1.2	instruct and monitor crew member operations in order to ensure compliance with other relevant health and safety regulations;	II
3	2.2	conduct risk management, to document on-board safety (including safety plan and safety instructions), to assess and control dangerous areas, fire safety and to use personal protective equipment;	II
4	3.1	present the mode of action of LNG;	II
5	3.1	read pressure and temperature, operate stripping, containment, pipe, gas supply, ventilation, safety systems, valves and to manage boil-off of LNG;	I
6	4.1	perform daily, weekly and regular periodic maintenance,	I
7	4.1	correct malfunctions detected during maintenance;	I
8	4.1	document maintenance work;	II
9	5.1	start and monitor bunkering procedures including measures to guarantee safe mooring, correct position of cables and pipes in order to avoid leakage, and to take measures to safely disconnect LNG and bunkering connection if needed at any time;	I
10	5.1	ensure compliance with relevant safety zone regulations;	II
11	5.1	report start of bunkering procedure;	II
12	5.1	perform safe bunkering according to manual, including ability to monitor pressure, temperature and LNG level in tanks;	I
13	5.1	purge pipe systems, to close valves and disconnect craft from bunkering installation and to report end of procedure after bunkering;	I
14	6.1	perform	I

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>	<i>Category I-II</i>
		inerting of the LNG system, LNG fuel tank drainage procedure, first filling of LNG fuel tank (drying and cooldown), entry into service following a shipyard stay;	
15	7.1	react appropriately in case of emergencies such as on-deck LNG spills, skin contact with LNG, LNG spills in closed spaces (e.g. in engine rooms), LNG spills or natural gas leaks in inter-barrier spaces (e.g. double-walled fuel tanks, double-walled pipes);	I
16	7.1	react appropriately in case of fire in the vicinity of LNG fuel tanks or in the engine rooms;	I
17	7.1	react appropriately in case of pressure built up in pipe systems after emergency shut down activation in case of imminent release or venting;	I
18	7.1	take emergency measures and remote surveillance emergency measures, e.g. to properly control LNG fire, pool, jet and flash fire.	I

2. Technical requirements for craft and shore facilities used for practical examination

Craft and shore facilities must be equipped with:

1. Documentation used for assessment such as

- 1.1 Safety rota (including safety plan and safety instructions) according to Article 30.03 ES-TRIN 2017/1,
- 1.2 Risk assessment according to Annex 8 Section I 1.3. ES-TRIN 2017/1,
- 1.3 All other documents required by Article 30.01(5) ES-TRIN 2017/1 including a detailed operating manual according to Annex 8 Section I 1.4.9 ES-TRIN 2017/1

2. Specific systems for LNG use

- 2.1 a LNG bunkering system including a bunkering station,
- 2.2 a LNG containment system,
- 2.3 a LNG piping system,
- 2.4 a gas supply system,
- 2.5 a gas preparation system,
- 2.6 a suitable engine room,
- 2.7 a ventilation system,
- 2.8 a leakage prevention and control system,
- 2.9 a monitoring and safety system and
- 2.10 the additional firefighting systems.

A craft used for a practical examination shall be covered by Article. 2 of Directive (EU) 2017/2397.

Annex IV

Standards for the practical examination for obtaining a certificate of qualification as a boatmaster (Resolution CESNI 2018-II-12)

1. Specific competences and assessment situations

The examination comprises two parts: one on journey planning and, a second one, on journey execution. The assessment for the journey execution shall take place in a single session. Each part of the examination consists of several elements.

For boatmasters, who have neither completed an approved training programme based on the standards of competence for the operational level nor passed an assessment of competence by an administrative authority aimed at verifying that the standards of competence for the operational level are met, the requirements are supplemented with the specific elements laid down in the standards set out in Chapter 5 (additional module on supervision in the context of the practical examination for obtaining a certificate of qualification as a boatmaster).

With respect to the content, the examination shall comply with the following requirements:

Journey planning

The part of the examination on journey planning comprises the elements listed in the table in Annex 1. Elements are grouped in categories I and II according to their importance. 10 elements from each category shall be selected from that list and tested in the examination.

Journey execution

Applicants are required to demonstrate that they are capable of executing a journey. An indispensable precondition for that is that applicants handle the craft themselves. The individual elements to be tested can be found in the table in Annex 2 and – unlike the journey planning part – all of them shall always be tested.

Examiners are free to decide about the content of each individual examination element.

Appendix I

Content of the part of the examination on journey planning

In each category, 10 elements shall be tested. The applicant can reach 10 points in each element as a maximum result.

For category I, applicants must reach a minimum of 7 out of 10 points in each tested element.

For category II, applicants must reach a minimum total score of 60 points.

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>	<i>Category I-II</i>
1	1.1.1	navigate on European inland waterways including locks and lifts according to navigation agreements with the agent;	I
2	1.1.3	consider economic and ecological aspects of the craft operation in order to use the craft efficiently and respect the environment;	II
3	1.1.4	take account of technical structures and profiles of the waterways, and take precautions	I
4	1.2.1	ensure safe manning of craft in accordance with the applicable rules;	I
5	1.3.3	ensure safe access to the craft;	II
6	2.1.1	respect the principles of inland waterway shipbuilding and construction;	II
7	2.1.2	distinguish construction methods of craft and their behaviour in the water, especially in terms of stability and strength;	II
8	2.1.3	understand structural parts of craft and damage control and analysis;	II
9	2.1.4	take action to protect the craft's watertight integrity;	I
10	2.2.1	understand functionalities of craft equipment;	II
11	2.2.2	respect specific requirements for transport of cargo and passengers;	I
12	3.1.1	understand relevant national, European and international regulations, codes and standards concerning the operation of transporting cargoes;	II
13	3.1.2	compose stowage plans including knowledge of loading cargoes and ballast systems in order to keep hull stress within acceptable limits;	I
14	3.1.3	control loading and unloading procedures with regard to safe transport;	I
15	3.1.4	differentiate various goods and their characteristics in order to monitor and ensure safe and secure loading of goods as laid down in the stowage plan;	II
16	3.2.1	respect the effect on trim and stability of cargoes and cargo operations;	I
17	3.2.2	check the effective tonnage of the craft, use stability and trim diagrams and stress calculating equipment, including ADB (Automatic Data-Base) to check a stowage plan;	I
18	3.3.1	understand relevant national, European and international regulations, codes and standards concerning the transportation of passengers;	II
19	3.3.2	arrange and monitor exercises on safety as laid down in the (safety) muster list in order to guarantee safe behaviour in potential situations of danger;	II

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>	<i>Category I-II</i>
20	3.3.3	communicate with passengers in emergency situations;	I
21	3.3.4	define and monitor on-board risk analysis of limited access for passengers as well as compile an effective on-board protection system in order to prevent unauthorised access;	II
22	3.3.5	analyse reports given by passengers (i.e. unforeseen occurrences, defamation, vandalism) in order to react accordingly;	II
23	4.4.1	prevent potential damage to electric and electronic devices on board;	II
24	4.5.3	evaluate technical and internal documentation;	II
25	5.1.1	ensure safe behaviour of crew members with regard to the use of materials and additives;	II
26	5.1.2	define, monitor and ensure work orders so that crew members are able to perform maintenance and repair work independently;	II
27	5.1.3	purchase and control material and tools with regard to health and environmental protection;	II
28	5.1.4	ensure wires and ropes are being used according to the manufacturer's specifications and intended purpose;	II
29	6.3.2	apply national, European and international social legislation;	II
30	6.3.3	follow strict alcohol and drug prohibition and react appropriately in cases of infringement, take responsibility and explain consequences of misbehaviour;	II
31	6.3.4	organise provisioning and preparation of meals on board;	II
32	7.1.1	apply national and international legislation and take appropriate measures for health protection and the prevention of accidents;	II
33	7.1.2	control and monitor validity of the craft's certificate and other documents relevant to the craft and its operation;	I
34	7.1.3	comply with safety regulations during all working procedures by using relevant safety measures in order to avoid accidents;	I
35	7.1.4	control and monitor all safety measures necessary for cleaning enclosed spaces before persons open, enter and clean those facilities;	II
36	7.2.5	control life-saving appliances and the correct application of personal protection equipment;	II
37	7.3.1	initiate preparations for rescue plans of different types of emergencies;	II
38	7.4.1	take precautions to prevent environmental pollution and use relevant equipment;	II
39	7.4.2	apply environmental protection laws;	II
40	7.4.3	use equipment and materials in an economical and environmental-friendly way.	II

Appendix II

Content of the part of the examination on journey execution

All elements listed in this part of the examination shall be tested. In each element, the applicant must reach a minimum of 7 out of a maximum of 10 points.

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>
1	1.1.1	Navigate and manoeuvre the craft appropriate to the situation and in accordance with the statutory requirements of navigational law (as a function of current speed and direction, checking of depth of the water and loaded draught, under-keel clearance, traffic density, interaction with other craft etc.);
2	1.1.4	Dock and cast off the inland waterway craft, in a right and proper manner and in compliance with statutory and/or safety-related requirements;
3	1.1.5	Readjust or reset navigation aids if necessary;
4	1.1.5	Gather all the information relevant for navigation supplied by the navigation aids and use it to adapt the handling of the craft;
5	1.1.6	Turn on the necessary devices at the steering position (navigation aids such as Inland AIS, Inland ECDIS) and adjust them;
6	2.2.2	Check that the craft is ready for the journey in accordance with the regulations, and that the cargo and other objects have been stowed safely in accordance with the regulations;
7	4.2.2	Appropriately respond to malfunctions (to be simulated, where appropriate) during navigation (e.g. increase in temperature of cooling water, drop in engine oil pressure, breakdown of main machine(s), rudder failure, disturbed radio communications, breakdown of radio telephone device, uncertain direction of other craft), decide on next steps and arrange or take appropriate steps as regards maintenance work to ensure safe navigation;
8	5.1.2	Handle the craft in such a way as to be able to anticipate the possibility of an accident and avoid unnecessary wear and tear; frequent checking of the available indicators;
9	6.1.1	Establish specific communication with crew members (on board communication) concerning various manoeuvres and as part of staff meetings (for example briefings) or with persons with whom cooperation is required (using all radio communication networks);
10	6.2.2	Communicate with the persons concerned (on board) and with other players (sector traffic centre, other craft etc.) during these activities in accordance with the regulations (networks, waterways along the route travelled): use of radio telephone, telephone;
11	7.3.3	Deal with an emergency situation (to be simulated, where appropriate – e.g. man overboard, breakdown incident, fire on board, the escape of hazardous substances, leaks) by means of prompt and prudent rescue and/or damage limitation manoeuvres or measures. Notifying and informing the relevant individuals and competent authorities in the event of an emergency;
12	7.3.4	Communicate with the persons concerned in the event of malfunctions (on board) and with other players (use of radio telephone, telephone) so that problems can be resolved.

2. Technical requirements for craft used for the practical examination

The craft used for a practical examination shall be covered by Article 2 of Directive (EU) 2017/2397.

Annex V

Standards for the additional module on supervision in the context of the practical examination for obtaining a certificate of qualification as a boatmaster (Resolution CESNI 2018-II-13)

Candidates who have neither completed an approved training programme based on the standards of competence for the operational level nor passed an assessment of competence by an administrative authority aimed at verifying that the standards of competence for the operational level are met, have to pass this module.

The requirements below need to be met in addition to those referred to under the standards for the practical examination for obtaining a certificate of qualification as a boatmaster.

1. Specific competences and assessment situations

Examiners are free to decide about the content of the individual examination elements.

Examiners shall test 20 out of 25 category I elements.

Examiners shall test 8 out of 12 category II elements.

Applicants can reach 10 points in each element as a maximum result.

For category I, applicants must reach a minimum of 7 out of 10 points in each element.

For category II, applicants must reach a minimum total score of 40 points.

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>	<i>Category I-II</i>
1	0.1.1	use materials available on board such as winches, bollards, ropes and wires considering relevant work safety measures including the use of personal protective and rescue equipment;	I
2	0.1.2	connect and disconnect push/barge combinations using the required equipment and materials;	I
3	0.1.2	use equipment and materials available on board for coupling operations considering relevant work safety measures including the use of personal protective and rescue equipment;	I
4	0.1.3	demonstrate anchor manoeuvres;	I
5	0.1.3	use equipment and materials available on board for anchoring operations considering relevant work safety measures including the use of personal protective and rescue equipment;	I
6	0.1.4	secure the water tightness of the craft;	I
7	0.1.4	work according to the checklist on deck and in the living quarters such as waterproofing and securing of the hatches and holds;	I
8	0.1.5	explain and demonstrate the applicable procedures to deck crew member while passing locks, weirs and bridges;	II
9	0.1.6	handle and maintain the craft's day and night marking system, signs and sound signals;	I
10	0.3.3	use methods to determine the amount of cargo loaded or discharged;	II
11	0.3.3	calculate the amount of liquid cargo using the soundings or tank tables, or both;	II

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>	<i>Category I-II</i>
12	0.4.1	operate and control the machinery in the engine room following procedures;	I
13	0.4.1	explain safe function, operation and maintenance of the bilge and ballast system including: reporting incidents associated with transfer operations and ability to correctly measure and report tank levels;	II
14	0.4.1	prepare and operate shut-off-operations of the engines after operation;	I
15	0.4.1	operate pumping bilge, ballast and cargo pumping systems;	I
16	0.4.1	use hydraulic and pneumatic systems;	I
17	0.4.2	use switchboard;	I
18	0.4.2	use shore supply;	I
19	0.4.3	apply safe working procedures in maintenance and repair of engines and equipment;	I
20	0.4.5	maintain and to take care of pumps, piping systems, bilge- and ballast systems;	II
21	0.5.1	clean all accommodation spaces, the wheelhouse and keeping the household in a proper way complying with the rules of hygiene including responsibility for their own accommodation space;	II
22	0.5.1	clean the engine rooms and engines using the appropriate cleansing materials;	I
23	0.5.1	clean and to preserve the outer parts, the hull and the decks of the craft in the correct order using the appropriate materials according to environmental rules;	II
24	0.5.1	take care of the craft and household waste disposal according to environmental rules;	II
25	0.5.2	maintain and take care of all technical equipment according to technical instructions and use maintenance programmes (including digital);	I
26	0.5.3	use and store ropes and wires according to safe working practices and rules;	II
27	0.5.4	splice wires and ropes, apply knots according to their use and maintain wires and ropes;	I
28	0.6.1	use required technical and nautical terms as well as terms related to social aspects in standardised communication phrases;	I
29	0.7.1	prevent dangers related to on board hazards;	I
30	0.7.1	prevent activities which might be hazardous to personnel or craft;	I
31	0.7.2	use personal protective equipment;	I
32	0.7.3	use swimming skills for rescue operations;	II
33	0.7.3	use rescue equipment in the case of rescue operations and rescue and transport a casualty;	II
34	0.7.4	keep escape routes free;	II

<i>N°</i>	<i>Competences</i>	<i>Examination elements</i>	<i>Category I-II</i>
35	0.7.5	use emergency communication and alarm systems and equipment;	I
36	0.7.6, 0.7.7	apply various methods of firefighting and extinguish equipment and fixed installations;	I
37	0.7.8	perform medical first aid.	I

2. Minimum requirements for the craft on which the practical examination will take place

A craft used for a practical examination shall be covered by Article 2 of Directive (EU) 2017/2397.
