10 April 2019

Explanatory notice of the amendments in ES-TRIN 2019

In November 2018, CESNI adopted the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN), edition 2019/1 (Resolution CESNI 2018-II-1).

On a proposal from the Secretariat, the CESNI/PT Working group prepared a draft explanatory notice with a view to documenting the needs behind these amendments to the ES-TRIN and the consequences associated with the amendments introduced by ES-TRIN 2019. This notice also includes a summary of the amendments made between ES-TRIN 2017 and 2019.

This notice is for documentary purposes only; it is not intended to be the subject of a CESNI resolution.

This notice is organised as follows:

1. Automated external defibrillators

The work on this topic led to the following ES-TRIN provisions being amended or added: Articles 19.08(10); 19.10(3)(j); 19.13(2)(t); 32.02(2) to 19.08(10); 32.05(5) to 19.08(10); 33.02(2) to 19.08(10); Annex 4, Figure 12.

1.1 Needs to be addressed by the amendments

Several thousand people suffer an out-of-hospital cardiac arrest each year. Only 7% of those survive. A victim's chance of survival increases up to 70% if the victim is resuscitated and administered an electric shock with an automated external defibrillator (AED) within the first three to four minutes. Anyone can handle an AED, and the use of a lay defibrillator is perfectly safe. After resuscitation, the device guides the user and only emits an electric shock when really necessary. The use of an AED not only increases the chance of survival but may also prevent permanent damage. In many cases the use of an AED will considerably reduce the time lag between the cardiac arrest and defibrillation of patients with ventricular fibrillation, resulting in the above-mentioned increased survival rates without additional risks to patients. The European Resuscitation Council (ERC) recommends that AEDs be installed in public places where there is a higher risk of cardiac arrest.

The amendment takes account of this heightened risk by imposing on passenger vessels the requirement to be equipped with an AED.

An additional reason, relevant when using AEDs on-board passenger vessels, is the response time of external rescuers, which may be longer compared to incidents ashore. Depending on the location of the vessel, a suitable berth must first be found where the rescuers can board the vessel. This might lead to loss of precious time resulting in a delay in defibrillation.

1.2 Possible alternative to the amendments

The CESNI/PT Working group examined the possibility of restricting the requirement to be equipped with an AED solely to large day trip vessels and cabin vessels. However, the Working group considered that a derogation for small passenger vessels is not advisable because the emergency services' response time is longer for a vessel that is underway than for an incident ashore and that AEDs' effectiveness is based on their ability to intervene within a very short space of time.

Another alternative that was examined is not to make equipment with an AED compulsory, leaving it to the profession to assume its responsibility, but to put in place provisions if the vessel is equipped voluntarily. In particular, these provisions would concern onboard signage and the vessel's safety plan. However, the Working group noted that the proportion of passenger vessels so equipped is currently high and that the anticipated safety benefits are also high. The introduction of compulsory equipment ensures a level playing field for the different vessels.

1.3 Consequences of these amendments

Article 19.08(10) requires all passenger vessels to be equipped with an AED, that the location of the AEDs be indicated by means of a standardised Figure and that maintenance of the AEDs comply with the manufacturer's instructions.

The amendment of Article 19.10(3) mandates adequate lighting and emergency lighting in locations where an automatic external defibrillator is located.

The amendment of Article 19.13(2) adds automatic external defibrillators to the minimum list of items to be displayed on the vessel's safety plan.

The transitional provisions associated with Article 19.08(10) envisage a short period within which to implement mandatory equipment with AEDs, namely at the latest on renewal of the inland navigation vessel certificate.

Figure 12 is added to Annex 4 to standardise the automatic defibrillator signage. The Figure complies with ILCOR (International Liaison Committee on Resuscitation) recommendations.

2. Firefighting systems - K_2CO_3

The work on this topic led to the following ES-TRIN provisions being amended or added: Article 13.05(1), (7), (14) and (15).

2.1 Needs to be addressed by the amendments

Article 13.05 of ES-TRIN governs the use of permanently installed fire-fighting systems for protecting engine rooms, boiler rooms and pump rooms. ES-TRIN 2017 did not permit the use of potassium carbonate (K_2CO_3) as an extinguishing agent (especially as a dry aerosol).

However, this extinguishing technique is booming and has already been used for some time, very satisfactorily so, aboard inland navigation vessels for which a CCNR recommendation had been issued (Article 2.20 of the Rhine vessel inspection regulations (RVIR)). The derogations authorised by the CCNR have enabled sufficient experience to be gathered in the use of these fire-fighting installations. In the light of this experience, the amendments to ES-TRIN aim to allow the use of potassium carbonate as a normal solution for protecting engine rooms, boiler rooms and pump rooms.

2.2 Possible alternative to the amendments

One alternative was not to amend ES-TRIN and to continue to make vessels' firefighting systems, which use potassium carbonate as the extinguishing agent, subject to a recommendation (individual derogation). It is considered that vessels will soon increasingly want to be able to use such extinguishing systems and that, consequently, the number of requested recommendations will increase in future. The CESNI/PT Working group considered that there was sufficient experience to enable technical requirements to be drawn up in ES-TRIN.

2.3 Consequences of these amendments

In Article 13.05(1), potassium carbonate is added to the list of extinguishing agents.

In addition to compliance with the general requirements (Article 13.05(1) to (9)), the new Article 13.05(15) defines the requirements that are specific to fire-fighting systems using potassium carbonate as an extinguishing agent. In particular, the specific requirements cover the following areas:

- the system's type-approval;
- the dimensioning and configuration of the system, including the connection and location of the tanks;
- operational requirements (concentration of at least 120 g per m^3 of net volume of the room to be protected).

In addition, these amendments are also the opportunity for adding to the general requirements in Article 13.05(7), which are applicable to the various permanently installed firefighting systems for protecting engine rooms, boiler rooms and pump rooms. This addition enables the requirements of a recognised classification society to be used in the absence of any requirements of a Member State. There is also an editorial clarification to Article 13.05(14)(a).

Furthermore, the CESNI/PT Working group's activities enabled information to be added to the database on the application of the technical requirements (ES-TRIN-faq) concerning the net volume and gross volume of the engine room.

3. Electric propulsion

The work on this topic led to the following provisions of ES-TRIN being added: Article 1.01(11.1) and (11.2), Chapter 11; Article 32.02(2), ad Chapter 11; Article 32.05(5), ad Chapter 11; Article 33.02(2), ad Chapter 11.

3.1 Needs to be addressed by the amendments

This amendment aims to define the technical requirements applicable to electric propulsion systems having regard to the state-of-the-art and with a view to ensuring the maintenance of a high level of safety in inland navigation.

3.2 Possible alternative to the amendments

An alternative would have been to not incorporate requirements into the ES-TRIN. However, an increasing number of craft with electric propulsion systems are entering service. Each national authority would be responsible for determining the specific requirements governing a vessel's electric propulsion system when issuing the inland navigation vessel certificate. A standard safety level in Europe would not be possible without harmonised technical requirements. Moreover, that would result in legal uncertainty for electrical propulsion system manufacturers.

3.3 Consequences of these amendments

Article 1.01(11.1) features a correction to the definition of "energy source" introduced by ES-TRIN 2017/1.

An addition has been made to the definition of "electric power source" in Article 1.01(11.2), especially as concerns vessel electric propulsion systems.

Definitions specific to the application of chapter 11 on vessel electric propulsion systems have been added to Article 11.00. These definitions arise from complex work carried out by the Working group (see CESNI/PT (17) 70). At this stage, the CESNI/PT Working group was not in favour of including these definitions in Article 1.01 without being able to carry out a careful examination of the impact on the application of the remaining provisions of the ES-TRIN.

Article 11.01 introduces the general provisions for electric vessel propulsion, namely:

- the minimal components comprising the main electric propulsion system;
- the vessel's minimum requirements for its navigability in the event of a malfunction of the power electronics or steering and regulating malfunction;
- the criteria for determining the independence of two electric propulsion systems, when two independent propulsion systems are required by other ES-TRIN requirements;
- the shutting-down or emergency deactivation of vessel electric propulsion systems;
- the avoidance of negative effects with gas or diesel-electric engines;
- general requirements on the use of batteries or accumulators beyond Chapter 10;
- documentation.

Article 11.02 introduces generators, transformers and switchgear for electric vessel propulsion. The electric power source shall ensure safe operation under all operating conditions, including in the event of reverse power during manoeuvring or of a power reduction if another power source fails. In this case the ensuing power reduction must still enable the vessel to move under its own power. Generators must be capable of being switched on and off without interrupting the electric main propulsion.

Article 11.03 introduces provisions for electric propulsion engines referred to in Article 11.01(1)(c). Electric propulsion engines shall ensure safe operation, including in the event of an overvoltage or failure of an external cooling system. In this case, notwithstanding the ensuing power reduction, the vessel must still be able to move under its own power.

Article 11.04 defines the power electronics requirements in addition to the general provisions in Articles 10.18 and 10.20. The power electronics are to be designed such that they continue to function under all operating, navigation and manoeuvring conditions, including in the event of an overload, short-circuit or failure of the power electronics' cooling system.

Article 11.05 introduces provisions for the steering positions referred to in Article 11.01(1)(d). This particularly concerns the monitoring of the vessel's electric propulsion system, as well as the triggering of protection devices.

Article 11.06 introduces requirements for control and regulation with regard to the prioritisation of electrical power supply to the propulsion and the on-board network and to the automatic power reduction, including the propulsion systems, including the information in the wheelhouse.

Article 11.07 defines the requirements applicable to protection of the vessel's electric propulsion system, in terms of functionality, and the triggering and signage of protection devices.

Article 11.08 requires the submission of a testing concept by the manufacturer to the Inspection body. This concept enables testing to be carried out prior to initial commissioning, following a major modification or repair, and during periodic inspections for renewal of an inland navigation vessel certificate. Because a vessel's electric propulsion system comprises numerous components, this testing concept is an essential tool for ensuring safety and enabling the Inspection body to carry out effective testing.

Article 11.09 introduces general provisions for auxiliary electric propulsion systems with power electronics, namely:

- the minimal components comprising the auxiliary electric propulsion system with power electronics;
- The power electronics protection devices, and the triggering and signage of such devices.

For the transitional provisions (Articles 32.02(2), 32.03(2), 32.05(5), 33.02(2), 33.03(2)), the provisions only apply to Newly-built craft and to the Replacement or Conversion of the parts or areas concerned (N.R.C. without an end date).

In the light of experience with the application of chapter 11, the CESNI Committee could define detailed transitional provisions (with an expiry date) for the next version of the ES-TRIN.

Finally it should be noted that the CESNI/PT Working group has validated two ways of interpreting the requirements of chapter 11 with communications CESNI/PT (17) 18 (Annex 1) and CESNI/PT (17) 21 (Annexes 1 and 2).

4. Transitional provisions

The work on this topic led to the following provisions of ES-TRIN being modified or added: Articles 14.04, 32.02(2); 32.03(2); 32.04(3); 32.05(5); 32.06; 33.03(2), 33.04, and instruction ESI-II-5.

4.1 Transitional provisions on noise emission limits in accommodations

Needs to be addressed by the amendments

These amendments are to be seen in the context of the moratorium on transitional provisions adopted by the CCNR in 2014 (Resolution CCNR 2014-I-16). This moratorium had the effect of temporarily postponing the application of various technical requirements to existing craft. This moratorium was only the first step in a process driven by economic considerations and by the desire to look for alternative solutions having regard to the fundamental objective of improving navigational and crew safety.

The present amendments aim to define appropriate requirements for limiting noise emissions for craft laid down on or before 1 April 1976. To this end, several alternative solutions were developed concerning sound pressure limits in accommodations and a measurement protocol dedicated to noise measurements for craft laid down on or before 1 April 1976.

Possible alternative to the amendments

The first alternative would not change the transitional provisions. This would incur high costs for the industry and run counter to the wish for lasting solutions.

Another alternative would be not to introduce a measurement protocol dedicated to noise measurements for vessels laid down on or before 1 April 1976 and to limit alternative solutions to a reduction in operating mode such that the vessel is operated solely outside the crew's rest period.

A third alternative would be the possibility to define specific sound pressure levels for the vessels in question in the transitional provisions and dispense with the new measurement protocol, and commit the vessel's operator only to do all that can reasonably be expected of him to reduce the noise pollution in the relevant rooms, and then have this assessed by the Inspection body.

Consequences of these amendments

The transitional provision in Article 32.03(2) to 15.02(5) is amended to include two alternatives if the prescribed noise limit in the accommodation is not complied with after 1.1.2020.

Alternative 1:

a) The applicant can demonstrate to the satisfaction of the inspection body that he has done what reasonably can be expected of him to reduce the noise level in the accommodations in question;
b) The remaining exceedance of the limit value does not exceed:
   - 5 dB(A) in communal living quarters;
   - 10 dB(A) in sleeping cabins, and
c) Appropriate individual acoustic protection devices shall be available in rooms where the limit values are exceeded.

If it is not possible to reduce the noise level throughout the sleeping quarters below the limit value as set out in (b), it is permissible to further reduce the ambient noise using local noise reduction measures, such as noise cancellation. This is subject to the provision that the ambient noise shall fall below the limit value as set out in (b). (c) shall apply mutatis mutandis.

Alternative 2:

The craft can continue its operating mode if monitoring by a tachograph ensures that the craft, at least for the rest periods prescribed by the member states' domestic provisions; is operated at a main engine rpm at which the noise limit values in the sleeping quarters does not exceed 60 dB(A).

This rpm value will be ascertained by trials upon first renewal of the inland navigation vessel certificate after 1.1.2020 and entered in the inland navigation vessel certificate.

This amendment also introduces an addition to instruction ESI-II-5 on noise measurements. Specific provisions are added for craft which were laid down on or before 1 April 1976 (part 3a and appendix 2).

4.2 Transitional provisions on engines

Needs to be addressed by the amendments

The amendment introduces an addition to the current transitional provisions of ES-TRIN 2017/1, mainly on the application of chapter 9 to recreational craft. This extension is necessary, as recreational craft with an existing type-approved engine (for example, a CCNR II engine installed in 2010), contrary to commercial motor vessels, were not subject to an installation test.

The work revealed that the problem concerned not just recreational craft but all vessels with an engine for which no installation test was required. This is why a general solution has been found for existing engines for which no installation test was required.

Possible alternative to the amendments

Do not amend the transitional provisions. That would have imposed high costs for vessel owners not subject to an engine installation test and a heavy administrative burden for the Inspection bodies.

Consequences of these amendments

The amendments to Articles 32.02, 32.05 and 33.02 enable the requirements of Article 9.02 to be applied only for engines already installed onboard and for which no installation test had to be performed.

4.3 Transitional provisions on electrical equipment and systems

Needs to be addressed by the amendments

In the ES-TRIN 2017, Chapter 10 on the technical requirements applicable to electrical equipment and installations had been revised in the light of technical progress and to ensure the maintenance of a high level of safety in inland navigation. In particular, this revision concerned protection against explosions, maximum permitted voltages, connection to the shore power supply, generators, engines, transformers, batteries, accumulators and cables as well as power electronics.

However, the new provisions in this chapter 10 applied only to Newly-built craft and to the Replacement or Conversion of the parts or areas concerned (N.R.C. without an end date). For these provisions, the CESNI Committee had invited the CESNI/PT Working group to find a compromise on detailed transitional provisions (with an expiry date) for the next version of the ES-TRIN. These amendments therefore respond to this instruction.

Moreover, after careful scrutiny by the Working group, these amendments aimed to make corrections to the transitional provisions for craft operated only on waterways beyond the Rhine (Zone R). This aims to take account of pre-existing transitional provisions (ES-TRIN 2015 and Directive 2006/87/EC).

Finally, these amendments are also to be seen in the context of the moratorium on transitional provisions adopted by the CCNR in 2014 (Resolution CCNR 2014-I-16). This moratorium had the effect of temporarily postponing the application of various technical requirements to existing craft. These amendments provide an appropriate solution for the limited general plan of the electrical installation for craft laid down on or before 1 April 1976. Specimen limited general plans are also added in instruction ESI-II-13.

Possible alternative to the amendments

One alternative would have been to retain the transitional provisions in ES-TRIN 2017. However, obsolete requirements would have continued to apply to existing craft and a high level of safety would no longer have been ensured for certain equipment (e.g. batteries and accumulators). Moreover, this would have imposed high costs for:

- owners of craft operating exclusively on waterways outside the Rhine (Zone R) and
- owners of craft laid down on or before 1 April 1976 in order to generate plans of the electrical installations.

The Working group did not adopt the EBU/ESO's alternative proposals concerning the transitional provisions for Articles 10.02(2)(e), (f) and (g), 10.11(3) and (14) and 10.15(15).

Consequences of these amendments

The amendments to Articles 32.02, 32.03, 32.05, 33.02 and 33.03 enable the technical requirements of Chapter 10 to be applied to existing craft, having regard to the state-of-the-art and previously existing transitional timescales.

The amendment of Article 32.04(3) enables the requirements for the limited general plan of the electrical installation for craft laid down on or before 1 April 1976 to be specified. The amendment of ESI-II-13 enables specimen limited general plans of the electrical installation to be incorporated.

4.4 Transitional provision on dinghies

Needs to be addressed by the amendments

These amendments are to be seen in the context of the moratorium on transitional provisions adopted by the CCNR in 2014 (Resolution CCNR 2014-I-16). This moratorium had the effect of temporarily postponing the application of various technical requirements to existing craft. This moratorium was only the first step in a process driven by economic considerations and by the desire to look for alternative solutions having regard to the fundamental objective of improving navigational and crew safety

These amendments aim to define appropriate requirements for the conformity check for ship's boats on existing craft. This concerns ship's boats which

- have been present since before 1.10.2003 aboard craft operated on the Rhine;
- have been present since before 1.1.2009 aboard craft operating exclusively on waterways outside the Rhine (Zone R).

These appropriate requirements are based on the following alternatives:

1. compliance with European Standard EN 1914 : 2016, or, failing that,
2. appears on a list of identifiable ship's boats (published on the CESNI website) or, failing that,
3. inspection of the ship's boat against a limited number of objective criteria (new Article 32.06).

Possible alternative to the amendments

Do not amend the transitional provisions. It would have implied high costs for the industry and would have been contrary to the wish of lasting solutions.

Consequences of these amendments

The consequence of the amendments to the transitional provisions in Articles 32.02(2) and 32.05(5) is to apply European Standard EN 1914 : 2016 to ship's boats, at the latest on renewal of the inland navigation vessel certificate after 1.1.2020. However, for ship's boats which were on board before 1.10.2003, proof may be provided alternatively that they comply with the safety requirements of Article 32.06. A similar amendment has been made to Article 33.02 for craft operated solely beyond the Rhine, but with the transitional timescale being 1.1.2029 and with the ship's boats in question having had to be present onboard prior to 1.1.2009.

The creation of Article 32.06 enables the conformity check of the ship's boat to be performed if it appears on a list of identifiable ship's boats (published on the CESNI website) or if meets the minimum requirements. This solution, identified with the profession, makes it possible to address the issue of checking existing ship's boats, while limiting costs and ensuring safety.

4.5 Transitional provisions on escape routes on passenger vessels

Needs to be addressed by the amendments

These amendments are to be seen in the context of the moratorium on transitional provisions adopted by the CCNR in 2014 (Resolution CCNR 2014-I-16). This moratorium had the effect of temporarily postponing the application of various technical requirements to existing craft. This moratorium was only the first step in a process driven by economic considerations and by the desire to look for alternative solutions having regard to the fundamental objective of improving navigational and crew safety.

If in the case of existing passenger vessels, it is no longer permitted to route escape routes via galleys, then guest accommodation spaces will be affected by the conversion work. One or a number of cabins will have to make way for an escape route. This is a far reaching encroachment, which impairs the revenue potential of the vessels concerned. The moratorium enabled the profession to conduct a study to identify alternative measures enabling the inherent risks of escape routes through galleys to be kept to an acceptable level.

These amendments aim to introduce an alternative solution if the creation of an escape route other than through the galley is technically impossible or generates disproportionate cost aboard existing craft. This solution must provide an equivalent level of safety.

Possible alternative to the amendments

Do not amend the transitional provisions. It would have implied high costs for the industry and would have been contrary to the wish of lasting solutions.

Consequences of these amendments

The amendments to Articles 32.02(2) and 32.05(5) have the effect of applying the prohibition on escape routes through galleys (Article 19.06(6)(c)) at the latest when renewing the inland navigation vessel certificate after 1.1.2020. However, where an escape route avoiding the galley cannot technically be implemented or its application imposes disproportionate costs, the inland navigation vessel certificate may be renewed only if:

a) the risks associated with the escape route through the galley have been analysed, and
b) the recommendations in accordance with this limited risk analysis have been implemented, to the satisfaction of the inspection body, in the galley.

This limited risk analysis shall at least address the following:

a) the accessibility of the escape route;
b) fire hazards;
c) risks from hot surfaces;
d) slip and trip hazards on galley floors;
e) specific hazards for certain target groups such as persons with reduced mobility.

4.6 Transitional provisions for propulsion systems of passenger vessels

Needs to be addressed by the amendments

These amendments are to be seen in the context of the moratorium on transitional provisions adopted by the CCNR in 2014 (Resolution CCNR 2014-I-16). This moratorium had the effect of temporarily postponing the application of various technical requirements to existing craft. This moratorium was only the first step in a process driven by economic considerations and by the desire to look for alternative solutions having regard to the fundamental objective of improving navigational and crew safety.

The requirements on the propulsion system of passenger vessels arise from a proposal put forward by the international associations of the shipping industry and take account of the fact that passenger vessels carry no rescue equipment on board that would permit passengers to be evacuated. Passenger vessels greater than 25 m in length are therefore to be fitted with a second independent propulsion system in a separate engine room which in the event of the main propulsion system failing, for example in the event of a fire or flooding in the engine room, enables passenger vessels to reach the bank within a short space of time where passengers can be evacuated directly ashore or to shallow water.

Retrofitting a second independent propulsion system on existing vessels is very expensive and can even result in a completely new propulsion system being installed with parts of the hull having to be modified. Alternative options for evacuating passengers on a vessel are known. The moratorium enabled the profession to conduct a study to identify alternative measures to provide an equivalent level of safety.

These amendments aim to introduce alternative measures to maintain the level of safety when adding a second independent propulsion system aboard craft already in service.

Possible alternative to the amendments

Do not amend the transitional provisions. It would have implied high costs for the industry and would have been contrary to the wish of lasting solutions

Consequences of these amendments

The consequence of the amendments to Articles 32.02(2) and 32.05(5) is to apply the requirement for a second independent propulsion system in a separate engine room (Article 19.07) at the latest on renewal of the inland navigation vessel certificate after 1.1.2020.

However, an alternative is also introduced for passenger vessels that existed before 1.1.2.2020. This alternative includes engine requirements concerning additional fire-fighting systems and training equipment.

4.7 Transitional provisions for safety devices aft of the aft-peak bulkhead

Needs to be addressed by the amendments

An obvious error in the transitional provisions of ES-TRIN 2017/1 concerning the aft-peak bulkhead in accordance with Article 3.03 had been identified. CESNI had adopted a corrigendum 2 to correct this obvious error.

These amendments aim to introduce this correction into ES-TRIN 2019/1.

Possible alternative to the amendments

Do not amend the transitional provisions. It would have implied high costs for the industry.

Consequences of these amendments

An amendment of Articles 32.02, 32.05 and 33.02 enables appropriate transitional timescales to be brought in for these requirements introduced with ES-TRIN 2015/1 and which will apply for the first time on 7 October 2018.

4.8 Transitional provisions governing side decks and guard rails

Needs to be addressed by the amendments

The CESNI/PT Working group identified an obvious error in the ES-TRIN concerning the requirements applicable to side decks (Article 14.04) and to the associated transitional provisions. This arises from an error in transposing the requirements of the RVIR into ES-TRIN 2015/1.

These amendments aim to introduce this correction into ES-TRIN 2019/1. The wording has been improved to ensure the accuracy of the requirements, in particular for craft with a breadth less than 7,30 m.

Possible alternative to the amendments

Do not amend the transitional provisions. This would have imposed high costs on the profession, in particular modifying the width of the slide deck of craft with a breadth less than 7,30 m.

Consequences of these amendments

The amendments to Articles 14.04, 32.02, 32.05 and 33.02 enable the requirements applicable to guardrails, as well as the transitional provisions for existing craft, to be accurately defined.

5. Editorial corrections and deletion of transitional provisions that have expired

In addition to the amendments clarified above, ES-TRIN also incorporates numerous editorial corrections and deletes transitional provisions that have expired.

ES-TRIN provides for the compliance with European and International Standards by some materials or parts used in shipbuilding and marine equipment. The standards are regularly updated or replaced with new standards by the relevant standard setting organisations. The respective predecessor standards are cancelled and become invalid. Subsequently, the relevant citations of standards in ES-TRIN must be adapted. In this context, Article 32.04(5) of the ES-TRIN provides a transitional provision applicable to craft operating on the Rhine. This provision should also apply to those operating exclusively on waterways outside the Rhine.

Annex to the explanatory notice for the amendments of ES-TRIN 2019

Summary of amendments to the technical requirements for inland waterway vessels included in the draft of ES-TRIN 2019[1]

1. 1.01(11), (11.1) and (11.2) is worded as follows:

"**11. Electrical equipment, installations and electric propulsion**

11.1 "power source" an energy carrier or energy converter used for producing useful energy. For rudder machinery propulsion systems the power supply to the steering drive unit and the steering apparatus (usually produced by an onboard network or a battery, alternatively an accumulator or an internal combustion engine);

11.2 "electrical power source" the power source from which electric power is obtained (usually an internal combustion engine with an energy converter e.g. a generator or a battery, or alternatively an accumulator);"

2. Article 3.03(2) is worded as follows:

"2. No accommodation or installations needed for safety of the vessel and its operation may be located ahead of the plane of the collision bulkhead or aft of the aft-peak bulkhead.

This requirement shall not apply to anchor gear or steering apparatus."

3. Article 3.04 is amended as follows:

a) (3), fourth sentence, is worded as follows:

"All openings in walls, ceilings, and doors of engine rooms, boiler rooms, and bunker rooms shall be such that they can be closed from outside the room. The locking devices shall be made from steel or another equivalent non-combustible material."

b) (5) is worded as follows:

"5. Companionways and ladders providing access to engine and boiler rooms and bunkers shall be firmly attached and be made of steel or another equivalent shock-resistant and non-combustible material."

4. Chapter 4, heading (concerns only the German version)

5. Article 9.00(5) (concerns only the French version)

[1] Modified or new parts of the text are highlighted in grey.

6. Article 9.09 (concerns only the French version)

7. Article 10.03, table, is worded as follows:

“

Location	Type of minimum protection in accordance with the European Standard EN 60529 : 2014					
	Generators	Motors	Trans formers	Switchboards Distribution Switching devices	Installation fittings(4)	Lighting appliances/ fire detectors
Service rooms, engine rooms and rooms of steering apparatus	IP 22	IP 22	IP 22(2)	IP 22(1) (2)	IP 44	IP 22
Holds		IP 55	IP 55		IP 55	IP 55
Accumulator rooms and paint lockers						IP 44and (Ex)(3)
Unroofed decks and open steering positions	IP 55	IP 55		IP 55	IP 55	IP 55
Enclosed wheelhouse	IP 55	IP 22	IP 22	IP 22	IP 22	IP 22
Accommodation, except sanitary and wet rooms				IP 22	IP 20	IP 20
Sanitary and wet rooms		IP 44	IP 44	IP 44	IP 55	IP 44

Comments:

(1) Where equipment release large amounts of heat: IP 12.

(2) Where the type of protection is not ensured by the equipment itself, the equipment location shall meet the conditions indicated in the table.

(3) Certified safe type electrical equipment, for example installations

a) allowed pursuant to the European Standards series EN 60079 in the version in force on 6 July 2017,

b) lower minimum type of protection depending on design, e.g. certain types of fire detector.

If lighting devices or fire detectors are used in accumulator and paint lockers, both conditions must be complied with.

(4) For installation fittings for currents of 125 A and greater: IP 66 (EN 60529 : 2014).

”

8. Article 10.11(16) (concerns only the German version)

9. Article 10.18(10) (concerns only the Dutch version)

10. Chapter 11 is worded as follows:

"*CHAPTER 11*
SPECIAL PROVISIONS APPLICABLE TO ELECTRIC VESSEL PROPULSION

Article 11.00
Definitions

For the purposes of this Chapter, the following definitions shall apply

1. "propulsion installation" a unit comprising an electrical power source including power electronics, electric propulsion motor, gearbox, shaft, propeller, etc. employed to generate movement of a craft;

2. "electric vessel propulsion" either a purely electric or diesel-electric or gas-electric propulsion installation of a craft, which is operated either by its own power supply or by the on-board network and comprising at least one electric propulsion motor. In the case of a diesel-electric or gas-electric propulsion installation, this term refers solely to the electrical components of the propulsion installation in question;

3. "electric main propulsion" an electric vessel propulsion which is applied to achieve the manoeuvrability laid down in Chapter 5;

4. "electric auxiliary propulsion" an additional electric vessel propulsion of a craft that is not an electric main propulsion;

5. "electric propulsion motor" an electric motor to propel the propeller shaft or the shaft of comparable propulsion installations such as water jet propulsion devices.

Article 11.01
General provisions for electric vessel propulsion

1. Craft's electric main propulsion must consist of at least
   a) two electrical power source, irrespective of the number of main propulsion,
   b) a switchgear,
   c) an electric propulsion motor,
   d) steering positions and
   e) depending on the design of the electric main propulsion, the corresponding power electronics.

2. If an electric main propulsion is equipped with only one propulsion motor and if the craft has no additional vessel propulsion that ensures sufficient propulsion power, the electric main propulsion must be designed in such a way that the craft is still capable of making steerageway under its own power while retaining the required manoeuvrability in the following cases:
   a) failure in the power electronics or
   b) failure in the regulation and control
   of the propulsion installation.

3. The general plans concerning the entire electrical installation pursuant to Article 10.01(2)(a) shall also include the locations of the main components and the electrical service rooms of the electric vessel propulsion.

4. If the electric propulsion motors are fed by batteries or accumulators, their capacity must be monitored and displayed.

   It must be ensured that the capacity of batteries or accumulators shall enable the safe reaching of a berth under the craft's own power at all times and under all conditions.

   In the event of a drop of the capacity of batteries or accumulators to the minimum residual capacity required pursuant second sentence, an optical and acoustic alarm is to be triggered and displayed in the wheelhouse.

5. If the electric vessel propulsion is gas-electric or diesel-electric, the electrical components must not negatively affect the gas or diesel engines.

6. A malfunction of the electric vessel propulsion shall not obstruct the operation of the craft such that the emergency systems provided for in accordance with this Standard, in particular the steerageway under its own power or the emergency electrical power supply, are affected.

7. Two electric vessel propulsions can only be deemed independent if the power supply circuits of the electric propulsion motor are completely separate from one another or if an FMEA-S safety study demonstrates that no failure of one electric propulsion impairs the operation of the other.

8. It must be possible to shut down or deactivate an electric vessel propulsion manually in an emergency.

Article 11.02
Generators, transformers and switchgear for electric vessel propulsion

1. The generators, transformers and switchgear must be designed for
   a) temporary overloads and
   b) the effects of manoeuvres
   according to their application and operating conditions.

2. The diesel or gas regulators of diesel or gas engines for electric propulsion systems must ensure safe operation over the entire speed range and for all sailing and manoeuvring conditions in single and parallel operation.

   If an electrical power source set fails according to Article 11.01(1)(a), there must be an automatic reduction in power so that the electric main propulsion continues with reduced power such that the craft is still capable of making steerageway under its own power.

3. The electrical power sources according to Article 11.01(1)(a) of the generators must be designed so that they can record the reverse power occurring during reversing manoeuvres when considering the propulsion concept.

4. Generators must be capable of being switched on and off without interrupting electric main propulsion.

Article 11.03
Electric propulsion motors for electric vessel propulsion

1. According to their application and operating conditions, electric propulsion motors for electric vessel propulsion must be designed for
   a) temporary overloads and
   b) the effects of manoeuvres

2. Electric propulsion motors must be designed in such a way that harmonics of currents and voltages do not impair their safe operation.

3. The insulation of the windings must be designed for overvoltages, which can occur due to manoeuvres and switching operations.

4. The main propulsion systems' propulsion engines, both electric and with external cooling, must be dimensioned such that, should the external cooling fail, they are still capable of operating on reduced power so that the craft is at least capable of making steerageway under its own power.

5. Electric propulsion motors must withstand a short-circuit at their terminals and in the propulsion installation without damage under rated operating conditions until the protective device is triggered.

Article 11.04
Power electronics for electric vessel propulsion

1. The power electronics requirements according to Articles 10.18 and 10.20 shall apply with the following provisions.

2. Power electronics must be designed for the anticipated loads, including overload and short circuit, during all operating and manoeuvring conditions.

3. If power electronics are force-cooled, they must, if their cooling system fails, be able to continue operating with reduced power while ensuring, at a minimum, in the case of electric main propulsion, that the craft is capable of making steerageway under its own power. In the event of a failure of the cooling system, an alarm is to be triggered and displayed in the wheelhouse.

4. Excitation circuits, the failure of which can endanger safe operation, may only be protected against short circuits.

Article 11.05
Monitoring equipment

1. The operating state of the electric vessel propulsion and its principal components is to be displayed in the wheelhouse and in the propulsion installation.

2. If the control system in the wheelhouse fails, the monitoring and operation of the electric main propulsion must be possible on-site. The crew must be able to switch within a reasonably short time without having to make changes to the propulsion installation and propeller speed and direction. A voice communication system must be provided to the wheelhouse.

3. The operating conditions and operation of the electric vessel propulsion, including the response of the protective device, are to be documented in a non-volatile computer memory such that the fault can be readily analysed in a verifiable manner.

Article 11.06
Control, regulation and automatic power limitation

1. (left void)

2. To protect the on-board network from being overloaded, provision shall also be made for
   a) an automatic shutdown of the electrical equipment not relating to personal safety or safe navigation and
   b) where required, additional automatic power limitation of the electric propulsion motors.

3. The provisions of Article 8.03(4) apply mutatis mutandis.

4. In the event of individual propulsion units being shut down as a result of an automatic power limitation, the propulsion asymmetry is to be kept to a minimum.

Article 11.07
Protection of the electric vessel propulsion

1. The automatic switching off of the electric vessel propulsion, which would affect the manoeuvrability of the craft, must be restricted to malfunctions that would result in significant damage within the propulsion installation.

2. Protective devices must be set so that it is not triggered in the event of situations referred to in Articles 11.02(1) and 11.03(1).

3. If a measured or reference value is lost or in the event of a power supply failure of the control or regulation system in accordance with article 11.06:
   a) the propeller speed must not increase to inadmissible levels;
   b) the propulsion system must not reverse of its own accord;
   c) no other dangerous operating condition must arise.

4. If an electric vessel propulsion can be mechanically locked uncontrollably, it must be equipped with a monitoring device which shall protect the electric vessel propulsion against damage.

5. Each electric propulsion motor is to be fitted with
   a) earth fault monitoring;
   b) differential protection or equivalent protective device and
   c) winding temperature monitoring system with an alarm trigger at high winding temperatures.

6. The following additional protective devices must be provided:
   a) overspeed protection;
   b) protection against overcurrent and short circuit;
   c) protection against harmful bearing currents on the electric propulsion motor by means of steep voltage edges.

7. It must be ensured when protective devices are triggered that:
   a) the power is reduced or malfunctioning subsystems are selectively switched off;
   b) electric vessel propulsion are shut down in a controlled manner;
   c) the power stored in components and in the load circuit cannot have a detrimental impact when they are switched off.

8. The triggering of protective, reducing and alarm devices must be displayed optically and acoustically in the wheelhouse and at a suitable position of the craft. The display must be reset only after acknowledgement. An alarm condition must remain visible even after the shutdown.

Article 11.08
Testing of the electric vessel propulsion

1. The test concept envisaged by the manufacturer of the electric vessel propulsion must be submitted to the inspection body before being put into service for the first time. The latter may demand additional testing and proof confirming the safe operation of the electric vessel propulsion and its functions. This applies in particular to those instances where the craft is required to be capable of making steerageway under its own power in the event of malfunctions. The test concept accepted by the inspection body is deemed to be a manufacturer's instructions according to (2).

2. The testing of the electric vessel propulsion must be carried out by an expert according to the manufacturer's instructions:
   a) before being put into service for the first time,
   b) before being put back into service after any major modification or repair,
   c) on every periodical inspection.

   An inspection attestation shall be issued, signed by the expert and showing the date of the inspection. The inspection attestation must be permanently kept on board.

Article 11.09
Electric auxiliary propulsion with power electronics

1. An electric auxiliary propulsion with power electronics for speed control must consist of at least a switchgear, an electric propulsion motor and the corresponding power electronics.

2. In addition to the provisions pursuant to Article 10.18, the power electronics of electric auxiliary propulsion shall comply with the following requirements:
   a) The power electronics components must be protected against exceeding their current and voltage limits.
   b) Semiconductor fuses must be monitored. In the event of a failure of the power electronics, the electric auxiliary propulsion is to be switched off if necessary in order to avoid consequential damage having regard to the safe operation of the craft.
   c) When the protective devices of power electronics are triggered, the provisions of Article 11.07(7) shall apply *mutatis mutandis*.
   d) The triggering of protective devices must be indicated by an alarm signal in the wheelhouse and on the protective devices."

11. Article 13.01 is amended as follows:

a) (1), introductory sentence (concerns only the French version)

b) (14) is worded as follows:

"14. The use of wire cables instead of anchor chains is permitted. The cables shall have the same breaking load as that required for chains, but shall be 20 % longer."

12. Article 13.05 is amended as follows:

a) (1) is worded as follows:

"1. Extinguishing agents

For protecting engine rooms, boiler rooms and pump rooms, the following extinguishing agents may be used in permanently installed fire-fighting systems:

a) CO_2 (carbone dioxide);
b) HFC 227ea (heptafluoropropane);
c) IG-541 (52 % nitrogen, 40 % argon, 8 % carbone dioxide);
d) FK-5-1-12 (Dodecafluoro-2-methylpentane-3-one);
e) H_2O (Water);
f) K_2CO_3 (potassium carbonate)."

b) (7)(a) is worded as follows:

"a) Pressure tanks, fittings and pressure pipes shall comply with the requirements in force in one of the Member States or, if there are no such requirements, to those of a recognised classification society."

c) (14)(a) is worded as follows:

"a) The fire-fighting system shall have a type-approval pursuant to MSC/Circ. 1165[2] or another Standard recognised by one of the Member States. Type-approval shall be carried out by a recognised classification society or an accredited testing institution. The accredited testing institution shall comply with the European Standard EN ISO/IEC 17025 : 2005."

[2] Circular MSC/Circ. 1165 – Revised guidelines for the approval of equivalent water-based fire-extinguishing systems for machinery spaces and cargo pump-rooms – adopted on 10 June 2005 and as amended by MSC/Circ.1269 , MSC/Circ.1386 and MSC/Circ.1385.

d) (15) hereafter is added after (14):

"15. K_2CO_3 - fire-fighting systems

In addition to the requirements laid down in (1) to (7) and (9), fire-fighting systems using K_2CO_3 as the extinguishing agent shall comply with the following provisions:

a) The fire-fighting system shall have a type-approval pursuant to MSC/Circ. 1270[3] or another Standard recognised by one of the Member States. Type-approval shall be carried out by a recognised classification society or an accredited testing institution. The accredited testing institution shall comply with the European Standard EN ISO/IEC 17025 : 2005.

b) Each room shall be provided with its own firefighting system.

c) The extinguishing agent must be stored in specially provided unpressurised tanks in the room to be protected. These tanks must be fitted in such a way that the extinguishing agent is dispensed evenly in the room. In particular the extinguishing agent must also work underneath the deck plates.

d) Each tank is separately connected with the triggering device.

e) The quantity of extinguishing agent relative to the room to be protected is at least 120 g per m^3 of the net volume of this room. This net volume is calculated according to MSC/Circ. 1270, items 11.2 to 11.4. It shall be possible to supply the extinguishing agent within 120 seconds."

13. Article 13.07(1), introductory sentence, is worded as follows:

"1. The following craft shall be equipped with a ship's boat according to European Standard EN 1914 : 2016:"

14. Article 14.04 is worded as follows:

"**Article 14.04**
Side decks

1. The clear width of a side deck shall be at least 0,60 m. This requirement applies up to a height of 2,00 m above the side deck.

   By way of derogation from the first sentence, the clear width of the side deck may be reduced to

   a) 0,50 m at certain points that are necessary for the operation of the vessel such as deck-washing valves,

   b) 0,40 m at bollards and cleats.

2. By way of derogation from (1), the clear width of the side deck may be reduced to 0,54 m, up to a height of 0,90 m above the side deck, provided that the clear width above, between the outer edge of the hull and the inner edge of the hold, is not less than 0,65 m.

3. By way of derogation from (1), the clear width of the side deck may be reduced to 0,50 m, provided that the outer edge of the side deck is fitted with a guard rail in accordance with European Standard EN 711 : 2016 to prevent falling."

[3] Circular MSC/Circ. 1270 – Revised Guidelines for the approval of fixed aerosol fire-extinguishing systems equivalent to fixed gas extinguishing systems, as referred to in SOLAS 1974, for machinery spaces – adopted on 4 June 2008. Circular MSC/Circ. 1270/Corr. 1 – Corrigendum – adopted on 29 August 2008.

15. Article 15.02(5), last sentence, is worded as follows:

"The restriction of the operating mode mentioned in (b) shall be entered on the inland navigation vessel certificate."

16. Article 19.02(13)(a) is worded as follows (concerns only the French and English versions):

"a) If several compartments are openly connected by piping or ventilation ducts, such piping and ducts shall, in an appropriate place, be lead above the damaged waterline corresponding to the worst possible flooding."

17. Article 19.06 (concerns only the French version)

18. Article 19.07(1) (concerns only the French version)

19. Article 19.08 is amended as follows:

a) (1) is worded as follows:

"1. All passenger vessels shall have internal communication facilities according to Article 7.08. Such facilities shall also be available in the service rooms and, where there is no direct communication from the steering position, in the access and muster areas for passengers as referred to in Article 19.06(8)."

b) (10) is added as follows:

"10. Passenger vessels must be equipped with at least one automated external defibrillator. Its location is indicated by a symbol for 'automated external defibrillator' in accordance with Figure 12 of Annex 4, having a side length of at least 10 cm. The automated external defibrillator must be maintained in accordance with the manufacturer's instructions."

20. Article 19.10(3) is amended as follows:

a) (e) is worded as follows:

"e) service rooms, engine rooms, steering equipment rooms and their exits;"

b) (i) is worded as follows:

"i) areas in which passengers, shipboard personnel and crew muster in the event of danger;"

c) (j) is added as follows:

"j) locations where an automated external defibrillator is to be found."

21. Article 19.13(2) is amended as follows:

a) (s) is worded as follows:

"s) first-aid kits;"

b) (t) is added as follows:

"t) the automated external defibrillator."

22. Article 25.01(2) is amended as follows:

a) (c) is worded as follows:

"c) to Chapter 7:
Article 7.01(2), Article 7.02(1) and (3), 1st and 2nd subparagraphs, Article 7.05(2), Article 7.13 for sea-going vessels designed for radar navigation by one person;"

b) (d), last paragraph (concerns only the German version)

23. Article 28.03(4)(d), table, is worded as follows:

"

Engine and service rooms	85 %
Cargo holds	70 %
Double bottoms, fuel tanks, ballast tanks, etc. depending on whether, according to their function, they have to be assumed as full or empty for the vessel floating at the maximum permissible draught	0 or 95 %.

"

24. Article 28.04(1)(d) is worded as follows:

"d) meet the requirements of Article 31.02."

25. Article 30.05 is worded as follows:

"**Article 30.05**
Marking

Service rooms and system components shall be appropriately marked so that it is clear for what fuels they are being used."

26. Article 30.06 (concerns only the French version)

27. Article 32.02(2), introductory sentence (concerns only the German version)

28. The table in Article 32.02(2) is amended as follows:

a) The note relating to Article 3.03(2) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
3.03	(2)	Accommodation forward of the collision bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010
		Accommodation aft of the aft-peak bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2045
		Safety equipment forward of the collision bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
		Safety equipment aft of the aft-peak bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035

”

b) The note relating to Chapter 9 is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
CHAPTER 9			For engines which are already installed onboard and a) non type-approved or b) for which no installation test had to be carried out, only Article 9.02 applies.	
9.01	(1) to (4)	General provisions	For engines complying with the type-approval and installation provisions in force at the date of installation: N.R.	
9.06		Installation test		

”

c) The note relating to Chapter 10 is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
CHAPTER 10				
10.01	(1) second sentence	Required documents must be submitted to the Inspection body	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035
	(2)(b)	Plans of main, emergency and distribution switchboards must be on board	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010
	(2)(e)	Switchboard plans as well as electric propulsion engine documentation	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030
	(2)(f)	Plans for electronic systems	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030
	(2)(g)	Control circuit plans	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030
	(3)	Ambient temperatures inside and on deck	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010
10.02		Electricity supply systems	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010
10.03		Type of protection according to installation location	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030
10.04		Protection from explosion	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
10.05	(4)	Cross-section of earthing conductors	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.06	(1) table	Three-phase alternating current	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
10.08	(1)	Compliance with European Standards EN 15869-1, EN 15869-3 and EN 16840	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(9)	Connection and disconnection when the line is dead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030

Article and paragraph		*Content*	*Deadline and comments*	
10.10	(2)	Installation of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(3)	Insulation of primary and secondary windings of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050
	(4)	Tappings on the secondary windings of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050
	(5)	Plate with manufacturer and power of engines, generators, transformers	N.R.C. except for engines, which come under Chapter 9 or Regulation (EU) 2016/1628 or Chapter 8a of the Rhine Vessel Inspection Regulations.	
10.11	(3)	Ventilation of service rooms and cupboard to the open deck	N.R.C., at the latest on renewal of the inland navigation vessel certificate.	
	(7)	Ventilation of enclosed rooms, cupboard or chest, in which accumulators are installed	N.R.C., at the latest on renewal of the inland navigation vessel certificate.	
	(12)	Measurement of charging devices	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(13)	Automatic chargers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(14)	Maximum charging voltage	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(15)	European Standards EN 62619 and EN 62620 for lithium-ion accumulators	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(16)	Accumulator management system	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
10.12	(2)(d)	Direct power supply for consumer equipment for propelling and manoeuvring	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
	(3)(b)	Device for monitoring insulation	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010
10.13		Emergency circuit-breaker devices	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010
10.14	(3), second sentence	Prohibition of single pole switches in washrooms, bathrooms and other wet rooms	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010

Article and paragraph		*Content*	*Deadline and comments*	
10.15	(2)	Minimum cross-section per conductor of 1,5 mm^2	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010
	(10)	Cables connected to elevating wheelhouses	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010
	(11)	Cable harness penetrations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(12)	Cables from an emergency electrical power source to consumer equipment	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(13)	Cable in areas with high ambient temperatures	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(14)	Installation of main and emergency power supply cables	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
10.16	(3), second sentence	Second circuit	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.18	(1)	Device for disconnecting from the mains	N.R.C., at the latest on renewal of the inland navigation vessel certificate after Legacy protection systems may remain in use if it is confirmed by an expert that they afford comparable protection.	1.1.2025
	(2)	Accessibility	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050
	(3)	Galvanic separation of control and power circuits	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(4)	Operating with voltage and frequency variations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(5)	Discharge time when disconnected from mains	N.R.C., at the latest on renewal of the inland navigation vessel certificate.	
	(6)	Response upon failure of external control signals	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(7)	Response upon failure of control voltages	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(8)	Error detection and prevention of undetected errors	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022

Article and paragraph		*Content*	*Deadline and comments*	
	(9)	Monitoring	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(10)	Type examination	N.R.C.	
10.19		Alarm and safety systems for mechanical installations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.20		Test conditions for electronic installations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035
10.21		Electromagnetic compatibility	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035

“

d) The note relating to Chapter 11 is worded as follows:

“

Article and paragraph	*Content*	*Deadline and comments*	
CHAPTER 11		N.R.C.	

”

e) The note relating to Article 13.07(1) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
13.07	(1)	Application of the European Standard to ship’s boats	N.R.C., at the latest on renewal of the inland navigation vessel certificate after For ship’s boats which were on board before 1.10.2003, proof may be provided alternatively that they comply with the safety requirements of Article 32.06.	1.1.2020

”

f) The note relating to Article 14.02(4) (concerns only the German version).

g) The note relating to Article 14.04(1) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
14.04	(1)	Clear width of side decks	For vessels of $B \leq 7{,}30\ m$: N.R.C.[4]	
			For vessels of $L < 55\ m$ in length with stern accommodation only, N.R.C.[1]	
			For all other vessels: N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035

”

h) The note relating to Article 14.04(2) is deleted.

[4] For vessels laid down after 31.12.1994 and for vessels in service, the requirement shall apply under the following conditions:

Should the entire hold area be replaced, the requirements of Article 14.04 must be complied with. In the event of modifications affecting the entire length of the side deck area and modifying the clear width of the side deck,

a) Article 14.04 must be complied with when the clear width of the side deck to a height of 0,90 m, available before the modification, has to be reduced

b) the clear width of the side deck to a height of 0,90 m or the clear width above that height, available before the modification, must not be reduced if their dimensions are less than those specified in Article 14.04.

i) The note relating to Article 19.06(6)(c) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
19.06	(6)(c)	No escape routes through galleys	N.R.C., at the latest on renewal of the inland navigation vessel certificate after Where an alternative escape route avoiding the galley cannot technically be implemented or its application imposes disproportionate costs, the inland navigation vessel certificate may be renewed only if: a) the risks associated with the escape route through the galley have been analysed, and b) the recommendations in accordance with this limited risk analysis have been implemented, to the satisfaction of the inspection body, in the galley. This limited risk analysis shall at least address the following: a) the accessibility of the escape route; b) fire hazards; c) risks from hot surfaces; d) slip and trip hazards on galley floors; e) specific hazards for certain target groups such as persons with reduced mobility.	1.1.2020

"

j) The note relating to Article 19.07(2) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
19.07	(2)	Second independent propulsion system in a separate engine room	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2020
			N.R.C. for passenger vessels that satisfy the following requirements: a) The existing firefighting system referred to in Article 19.12(9) to protect the engine room can be triggered immediately without danger to people located in the engine room. If this is not the case, the combustion engines in the engine room are protected with additional firefighting system for object protection, which can be triggered immediately without danger to people located in the engine room. b) By derogation to Article 13.06, a firefighting system for object protection, which can be triggered immediately without danger to people located in the engine room, is required for: - the enclosed combustion engines; - the enclosed generators; - the main switchboard. c) The firefighting systems for object protection referred to in (a) and (b) must be designed by a specialised firm. Furthermore, the requirements of Article 13.05(9) apply *mutatis mutandis*. d) In addition to the bilge systems referred to in Article 8.08, the engine room is equipped with an additional bilge pump. Its pumping capacity (Q) in l/min is calculated by $Q = {d_2}^2 . d_2$ is to be calculated in accordance with section 8.08(3) and the maximum length of the engine room is to be used for “I”. The bilge pump must be located in the secure area.	

Article and paragraph		*Content*	*Deadline and comments*	
			It must be possible to switch on the pump and operate the pressure valves from above the main deck. e) The total pump capacity of all pumps located in this engine room and capable of being used for pumping out must be at least 3000 l/min. f) (d) and (e) are not required if the main engines are located above the damage waterline in the event of flooding in the engine room.	

"

k) The note relating to Article 19.08(10) is added as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
19.08	(10)	Automated external defibrillator	N.R.C., at the latest on renewal of the inland navigation vessel certificate.	

”

29. Article 32.03(2), introductory sentence (concerns only the German version)

30. The table in Article 32.03(2) is amended as follows:

a) The note relating to Chapter 10 is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
CHAPTER 10				
10.01	(2)(a), (c) and (d)	- general plans concerning the entire electrical installation, - indications of power requirements for electrical service equipment, - types of cables indicating conductor cross-sections	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2020
			R.C. for vessels the plans of which are drawn up in accordance with Article 32.04(3) second sentence.	
10.03		Type of protection according to installation location	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.06	(1) tabel without footnote 4	Maximum permissible voltages	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.10		Generators, engines and transformers	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.11	(3) and (5)	Installation of accumulators	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.12		Switchgear and controlgear	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.13		Emergency circuit-breaker devices	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.14		Installation fittings	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.15	(1) to (10)	Cables	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.17		Navigation lights	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015

”

b) The note relating to Article article 15.02(5), is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
CHAPTER 15				
15.02	(5)	Noise and vibration in accommodations	On renewal of the inland navigation vessel certificate after	1.1.2020
			Where the prescribed limit value is not complied with after that date, the inland navigation vessel certificate may be renewed only if one of the two alternatives below is complied with. Alternative 1: a) The applicant can demonstrate to the satisfaction of the inspection body that he has done what reasonably can be expected of him to reduce the noise level in the accommodations in question; b) The remaining exceedance of the limit value does not exceed: - 5 dB(A) in living quarters; - 10 dB(A) in sleeping quarters, and c) Appropriate individual acoustic protection devices shall be available in rooms where the limit values are exceeded. If it is not possible to reduce the noise level throughout the sleeping quarters below the limit value as set out in (b), it is permissible to further reduce the ambient noise using local noise reduction measures, such as noise cancellation. This is subject to the provision that the ambient noise shall fall below the limit value as set out in (b). (c) shall apply *mutatis mutandis*. Alternative 2: The craft can continue its operating mode if monitoring by a tachograph ensures that the craft, at least for the rest periods prescribed by the member states’ domestic provisions; is operated at a main engine rpm at which the noise limit values in the sleeping quarters does not exceed 60 dB(A). This rpm value will be ascertained by trials upon first renewal of the inland navigation vessel certificate after 1.1.2020 and entered in the inland navigation vessel certificate.	

”

31. Article 32.04(3) is worded as follows:

"3. Craft laid down before 1 July 1983 do not need to conform to Chapter 10 of this Standard, but must at least conform to Chapter 6 of the Rhine Vessel Inspection Regulations as applicable on 31 March 1983.

By way of derogation from Article 6.01(2) of the Rhine Vessel Inspection Regulations as applicable on 31 March 1983, a limited general plan of the electrical installation containing the following minimum information shall suffice for craft which were laid down on or before 1 April 1976:

- energy sources;
- connections to the shore or other external networks;
- main and distribution switchboards;
- protection devices of the main current;
- switches
- cables cross-sections."

32. Article 32.05(5), introductory sentence (concerns only the German version)

a) The note relating to Article 3.03(2) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
3.03	(2)	Accommodation aft of the aft-peak bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2045	7.10.2018
		Safety equipment aft of the aft-peak bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035	7.10.2018

”

b) The note relating to Chapter 9 is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
CHAPTER 9			For engines which are already installed onboard and a) non type-approved or b) for which no installation test had to be carried out, only Article 9.02 applies.		1.1.2020
9.01	(1) to (4)	General provisions	For engines complying with the type and installation provisions in force at the date of installation: N.R.		
9.06		Installation test			

”

c) The note relating to Chapter 10 is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
CHAPTER 10					
10.01	(1) second sentence	Required documents must be submitted to the Inspection body	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035	7.10.2018
	(2)(b)	Plans of main, emergency and distribution switchboards must be on board	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010	7.10.2018
	(2)(e)	Switchboard plans as well as electric propulsion engine documentation	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030	7.10.2018
	(2)(f)	Plans for electronic systems	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030	7.10.2018
	(2)(g)	Control circuit plans	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030	7.10.2018
	(3)	Ambient temperatures inside and on deck	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010	7.10.2018
10.02		Electricity supply systems	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010	7.10.2018
10.03		Type of protection according to installation location	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030	7.10.2018
10.04		Protection from explosion	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022	7.10.2018
10.05	(4)	Cross-section of earthing conductors	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015	7.10.2018
10.06	(1) table	Three-phase alternating current	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
10.08	(1)	Compliance with European Standards EN 15869-1, EN 15869-3 and EN 16840	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022	7.10.2018
	(9)	Connection and disconnection when the line is dead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
10.10	(2)	Installation of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(3)	Separate primary and secondary windings of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050	7.10.2018
	(4)	Tappings on the secondary windings of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050	7.10.2018
	(5)	Plate with manufacturer and power of engines, generators, transformers	N.R.C. except for engines, which come under Chapter 9 or Regulation (EU) 2016/1628 or Chapter 8a of the Rhine Vessel Inspection Regulations.		7.10.2018
10.11	(3)	Ventilation of service rooms and cupboard to the open deck	N.R.C., at the latest on renewal of the inland navigation vessel certificate.		7.10.2018
	(7)	Ventilation of enclosed rooms, cupboard or chest, in which accumulators are installed	N.R.C., at the latest on renewal of the inland navigation vessel certificate.		7.10.2018
	(12)	Measurement of charging devices	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(13)	Automatic chargers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(14)	Maximum charging voltage	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(15)	European Standards EN 62619 and EN 62620 for lithium-ion accumulators	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(16)	Accumulator management system	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
10.12	(2)(d)	Direct power supply for consumer equipment for propelling and manoeuvring	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015	7.10.2018
	(3)(b)	Device for monitoring insulation	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010	7.10.2018
10.13		Emergency circuit-breaker devices	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010	7.10.2018
10.14	(3), second sentence	Prohibition of single pole switches in washrooms, bathrooms and other wet rooms	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010	7.10.2018
10.15	Nr. 2	Minimum cross-section of 1,5 mm^2	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010	7.10.2018
	Nr. 10	Cables connected to elevating wheelhouses	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2010	7.10.2018
	(11)	Cable harness penetrations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(12)	Cables from an emergency electrical power source to consumer equipment	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(13)	Cable in areas with high ambient temperatures	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(14)	Installation of main and emergency power supply cables	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
10.16	(3), second sentence	Second circuit	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015	7.10.2018
10.18	(1)	Device for disconnecting from the mains	N.R.C., at the latest on renewal of the inland navigation vessel certificate after Legacy protection systems may remain in use if it is confirmed by an expert that they afford comparable protection.	1.1.2025	7.10.2018

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
	(2)	Accessibility	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050	7.10.2018
	(3)	Galvanic separation of control and power circuits	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025	7.10.2018
	(4)	Operating with voltage and frequency variations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022	7.10.2018
	(5)	Discharge time when disconnected from mains	N.R.C., at the latest on renewal of the inland navigation vessel certificate.		7.10.2018
	(6)	Response upon failure of external control signals	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022	7.10.2018
	(7)	Response upon failure of control voltages	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022	7.10.2018
	(8)	Error detection and prevention of undetected errors	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022	7.10.2018
	(9)	Monitoring	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022	7.10.2018
	(10)	Type examination	N.R.C.		
10.19		Alarm and safety systems for mechanical installations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015	7.10.2018
10.20		Test conditions for electronic installations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035	7.10.2018
10.21		Electromagnetic compatibility	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035	7.10.2018

”

d) The note relating to Chapter 11 is worded as follows:

“

Article and paragraph	*Content*	*Deadline and comments*		*Date of entry into force*
CHAPTER 11		N.R.C.		1.1.2020

”

e) The note relating to Article 13.07(1) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
13.07	(1)	Application of the European Standard to ship’s boats	N.R.C., at the latest on renewal of the inland navigation vessel certificate after For ship’s boats which were on board before 1.10.2003, proof may be provided alternatively that they comply with the safety requirements of Article 32.06.	1.1.2020	1.10.2003

”

f) The note relating to Article 14.02(4) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
14.02	(4)	Equipping of the outer edges of decks, side decks and other work stations	N.R.C.		1.12.2011

”

g) The note relating to Article 14.04(2) is deleted.

h) The note relating to Article 19.06(6)(c) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
19.06	(6)(c)	No escape routes through galleys	N.R.C., at the latest on renewal of the inland navigation vessel certificate after Where an alternative escape route avoiding the galley cannot technically be implemented or its application imposes disproportionate costs, the inland navigation vessel certificate may be renewed only if: a) the risks associated with the escape route through the galley have been analysed, and b) the recommendations in accordance with this limited risk analysis have been implemented, to the satisfaction of the inspection body, in the galley. This limited risk analysis shall at least address the following: a) the accessibility of the escape route; b) fire hazards; c) risks from hot surfaces; d) slip and trip hazards on galley floors; e) specific hazards for certain target groups such as persons with reduced mobility.	1.1.2020	1.1.2020

”

i) The note relating to Article 19.07(2) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
19.07	(2)	Second independent propulsion system in a separate engine room	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2020	1.1.2020
			N.R.C. for passenger vessels that satisfy the following requirements : a) The existing firefighting system referred to in Article 19.12(9) to protect the engine room can be triggered immediately without danger to people located in the engine room. If this is not the case, the combustion engines in the engine room are protected with additional firefighting system for object protection, which can be triggered immediately without danger to people located in the engine room. b) By derogation to Article 13.06, a firefighting system for object protection, which can be triggered immediately without danger to people located in the engine room, is required for : - the enclosed combustion engines; - the enclosed generators; - the main switchboard. c) The firefighting systems for object protection referred to in (a) and (b) must be designed by a specialised firm. Furthermore, the requirements of Article 13.05(9) apply *mutatis mutandis*. d) In addition to the bilge systems referred to in Article 8.08, the engine room is equipped with an additional bilge pump.		1.1.2020

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
			Its pumping capacity (Q) in l/min is calculated by $Q = {d_2}^2 . d_2$ is to be calculated in accordance with section 8.08(3) and the maximum length of the engine room is to be used for "I". The bilge pump must be located in the secure area. It must be possible to switch on the pump and operate the pressure valves from above the main deck. e) The total pump capacity of all pumps located in this engine room and capable of being used for pumping out must be at least 3000 l/min. f) (d) and (e) are not required if the main engines are located above the damage waterline in the event of flooding in the engine room.		

"

j) The note relating to Article 19.08(10) is added as follows:

"

Article and paragraph		*Content*	*Deadline and comments*		*Date of entry into force*
19.08	(10)	Automated external defibrillator	N.R.C., at the latest on renewal of the inland navigation vessel certificate.		1.1.2020

"

34. After Article 32.05 a new Article 32.06 is added as follows:

"**Article 32.06**
Ship's boats which were on board craft before 1.10.2003

1. Ship's boats which were on board before 1.10.2003 shall be:
   a) included in the list of ship's boats for the inland navigation published by the CESNI, or
   b) compliant with the conditions specified in (2).

2. Ship's boats according to (1) letter b shall at least meet the following conditions:
   a) The ship's boat must be made of appropriate materials. Ship's boats made of a synthetic material must not exhibit any signs of deterioration.
   b) The product of $L_B \cdot B_B \cdot H_B$ shall be at least 2,7m³.
   c) The ship's boat must possess seating for the maximum permitted number of occupants and be able to manoeuvre safely with this number of occupants on board.
   d) The freeboard of a ship's boat with the maximum permitted number of occupants on board must be equal to or greater than 25 cm.
   e) The residual buoyancy in kN of the flooded unmanned craft must be at least

$$0{,}3 \cdot L_B \cdot B_B \cdot H_B$$

   The ship's boat must have an upright floating position in all loading conditions.

   f) The ship's boat must be fitted with appropriate equipment (two oars, a bailer, a mooring line, a rescue line, two thole pins, towing eye and lifting attachment).
   g) The ship's boat shall be fitted with a drainage device made of corrosion-resistant material that can be quickly and securely closed at any time. The plug shall be permanently attached to the ship's boat.
   h) All accessible parts of the ship's boat must be slip-resistant.
   i) When the board cannot be grasped or if the freeboard of the empty ship's boat exceeds 30 cm, the ship's boat must be equipped with ropes or handholds so that someone in the water can hold on to it.
   j) The ship's boat shall be provided on both sides with a retroreflective strip at least 0,1 m wide and 1 m long.
   k) A signboard in the ship's boat must be affixed according to Annex 4, Figure 10.

l) For conditions b and e:

L_B: Length of the ship's boat in m;

B_B: Breadth of the ship's boat in m;

H_B: Height of the ship's boat's sides in m.

Compliance of the ship's boat with these conditions shall be confirmed by an expert and the conditions c and e shall be verified by practical tests in standing water.

3. Ship's boats according to (1) must be marked by a metal plate according to the following pattern:

Ship's boat:	
UNIQUE EUROPEAN VESSEL IDENTIFICATION NUMBER:	.....
NUMBER OF RHINE VESSEL INSPECTION CERTIFICATE / UNION CERTIFICATE FOR INLAND NAVIGATION VESSELS:	.....
INSPECTION BODY:	.....

The indication on the metal plate must be confirmed by a vessel inspection body by the fact that its mark is stamped on the metal plate."

35. Article 33.01, heading (concerns only the French version)

36. Article 33.02(2), introductory sentence (concerns only the German version)

37. The table in Article 33.02(2) is amended as follows:

a) The note relating to Article 3.03(2) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
3.03	(2)	Accommodation forward of the collision bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2024
		Accommodation aft of the aft-peak bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2059
		Safety equipment forward of the collision bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2029
		Safety equipment aft of the aft-peak bulkhead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2049

”

b) The note relating to Chapter 9 is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
CHAPTER 9			For engines which are already installed onboard and a) non type-approved or b) for which no installation test had to be carried out, only Article 9.02 applies.	
9.01	(1) to (4)	General provisions	For engines complying with the type-approval and installation provisions in force at the date of installation: N.R.	
9.06		Installation test		

”

c) The note relating to Chapter 10 is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
CHAPTER 10				
10.01	(1) second sentence	Required documents must be submitted to the Inspection body	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2049
	(2)(b)	Plans of main, emergency and distribution switchboards	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2024
	(2)(e)	Switchboard plans as well as electric propulsion engine documentation	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030
	(2)(f)	Plans for electronic systems	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030
	(2)(g)	Control circuit plans	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030
	(3)	Ambient temperatures inside and on deck	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2024
10.02		Power supply systems	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2024
10.03		Type of protection according to installation location	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2029
10.04		Protection from explosion	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
10.05	(4)	Cross-section of earthing conductors	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2029
10.06	(1) table	Three-phase alternating current	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025

Article and paragraph		*Content*	*Deadline and comments*	
10.08	(1)	Compliance with European Standards EN 15869-1, EN 15869-3 and EN 16840	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(9)	Connection and disconnection when the line is dead	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2030
10.10	(2)	Installation of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(3)	Insulation of primary and secondary windings of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050
	(4)	Tappings on the secondary windings of transformers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050
	(5)	Plate with manufacturer and power of engines, generators, transformers	N.R.C. except for engines, which come under Chapter 9 or Regulation (EU) 2016/1628 or Chapter 8a of the Rhine Vessel Inspection Regulations.	
10.11	(3)	Ventilation of service rooms and cupboard to the open deck	N.R.C., at the latest on renewal of the inland navigation vessel certificate.	
	(7)	Ventilation of enclosed rooms, cupboard or chest, in which accumulators are installed	N.R.C., at the latest on renewal of the inland navigation vessel certificate.	
	(12)	Measurement of charging devices	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(13)	Automatic chargers	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(14)	Maximum charging voltage	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025

Article and paragraph		*Content*	*Deadline and comments*	
	(15)	European Standards EN 62619 and EN 62620 for lithium-ion accumulators	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(16)	Accumulator management system	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
10.12	(1), (2), (3)(a), (4) to (10)	Switchgear and controlgear	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2029
	(3)(b)	Device for monitoring insulation equipped with an optical and acoustic alarm	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2024
10.13		Emergency circuit-breaker devices	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2029
10.14	(3), second sentence	Prohibition of single pole switches in washrooms, bathrooms and other wet rooms	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2024
10.15	(2)	Minimum cross-section per conductor of 1.5 mm²	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2024
	(10)	Cables connected to elevating wheelhouses	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2024
	(11)	Cable harness penetrations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(12)	Cables from an emergency electrical power source to consumer equipment	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(13)	Cable in areas with high ambient temperatures	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(14)	Installation of main and emergency power supply cables	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025

Article and paragraph		*Content*	*Deadline and comments*	
10.16	(3) second sentence	Second circuit	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2029
10.18	(1)	Device for disconnecting from the mains	N.R.C., at the latest on renewal of the inland navigation vessel certificate after Legacy protection systems may remain in use if it is confirmed by an expert that they afford comparable protection.	1.1.2025
	(2)	Accessibility	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2050
	(3)	Galvanic separation of control and power circuits	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2025
	(4)	Operating with voltage and frequency variations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(5)	Discharge time when disconnected from mains	N.R.C., at the latest on renewal of the inland navigation vessel certificate.	
	(6)	Response upon failure of external control signals	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(7)	Response upon failure of control voltages	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(8)	Error detection and prevention of undetected errors	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(9)	Monitoring	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2022
	(10)	Type examination	N.R.C.	
10.19		Alarm and safety systems for mechanical installations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2029
10.20		Test conditions for electronic installations	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2049
10.21		Electromagnetic compatibility	N.R.C., at the latest on renewal of the inland navigation vessel certificate after	30.12.2049

”

d) The note relating to Chapter 11 is worded as follows:

“

Article and paragraph	*Content*	*Deadline and comments*	
CHAPTER 11		N.R.C.	

”

e) The note relating to Article 13.07(1) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
13.07	(1)	Application of the European Standard to ship’s boats	N.R.C., at the latest on renewal of the inland navigation vessel certificate after For ship’s boats which were on board before 1.1.2009, proof may be provided alternatively that they comply with the safety requirements of Article 33.04.	1.1.2029

”

f) The note relating to Article 14.02(4) (concerns only the German version).

g) The note relating to Article 14.04(1) is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
14.04	(1)	Clear width of side decks	For vessels of $B \leq 7{,}30\ m$: N.R.C.[5]	
			For vessels of $L < 55\ m$ in length with stern accommodation only, N.R.C.[1]	
			For all other vessels: N.R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2035

”

h) The note relating to Article 14.04(2) is deleted.

i) The note relating to Article 19.08(10) is added as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
19.08	(10)	Automated external defibrillator	N.R.C., at the latest on renewal of the inland navigation vessel certificate.	

"

38. Article 33.03(2), introductory sentence (concerns only the German version)

[5] For vessels laid down after 31.12.1994 and for vessels in service, the requirement shall apply under the following conditions:

Should the entire hold area be replaced, the requirements of Article 14.04 must be complied with. In the event of modifications affecting the entire length of the side deck area and modifying the clear width of the side deck,

a) Article 14.04 must be complied with when the clear width of the side deck to a height of 0,90 m, available before the modification, has to be reduced
b) the clear width of the side deck to a height of 0,90 m or the clear width above that height, available before the modification, must not be reduced if their dimensions are less than those specified in Article 14.04.

39. The table in Article 33.03(2) is amended as follows:

The note relating to Chapter 10 is worded as follows:

“

Article and paragraph		*Content*	*Deadline and comments*	
CHAPTER 10				
10.01	(2)	Certificates for electrical equipment	N.R.C.	
	(3)	Design of electrical equipment	N.R.C.	
10.03		Type of protection according to installation location	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.06		Maximum permissible voltages	N.R.C.	
10.10		Generators, engines and transformers	N.R.C.	
10.11	(3) and (5)	Installation of accumulators	N.R.C.	
10.12	(1), (3) and (4)	Switchgear and controlgear	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
	(2)	Switches, protective devices	N.R.C.	
10.13		Emergency circuit-breaker devices	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
10.14	(1), (2) and (4)	Installation fittings	R.C., at the latest on renewal of the inland navigation vessel certificate after	1.1.2015
	(3)	Simultaneous switching	N.R.C.	
10.15		Cables	N.R.C.	
10.16	(3)	Lighting in engine rooms	N.R.C.	
10.17		Navigation lights	N.R.C.	

”

40. After Article 33.03 a new Article 33.04 is added as follows:

"**Article 33.04**
Ship's boats which were on board craft before 1.1.2009

1. Ship's boats which were on board before 1.1.2009 shall be:
   a) included in the list of ship's boats for the inland navigation published by the CESNI, or
   b) compliant with the conditions specified in Article 32.06(2).

2. Ship's boats according to (1) must be marked by a metal plate according to the following pattern:

Ship's boat:	
UNIQUE EUROPEAN VESSEL IDENTIFICATION NUMBER:	.....
NUMBER OF UNION CERTIFICATE FOR INLAND NAVIGATION VESSELS:	.....
INSPECTION BODY:	.....

The indication on the metal plate must be confirmed by a vessel inspection body by the fact that its mark is stamped on the metal plate."

41. In Annex 4 a Figure 12 is added as follows:

“

Figure 12 Automated external defibrillator		Colour : white/green

”

42. Annex 5, Section IV, Article 2(7) (concerns only the Dutch version)

43. Annex 8, Section I, Chapter 1 (concerns only the German version)

44. ESI-I-1(5) is worded as follows:

“**5. Transitional provisions for Union inland navigation vessel certificates**

5.1 Existing Community certificates

With the exception of the exceptional 6 months extension, no further extensions to existing community certificates shall be granted.

5.2 Replacement after a periodical inspection

After a periodical inspection of a vessel which does not yet have a Union inland navigation certificate in line with the model in Annex 3, Section I, a Union inland navigation certificate shall be issued.”

45. ESI-II-5 is worded as follows:

"*ESI-II-5*
NOISE MEASUREMENTS

(Articles 3.04(7), 7.01(2), 7.03(6), 7.09(3), 8.08, 14.09(3), 15.02(5), 22.02(3)(b), 22.03(1))

1. General

In order to check the maximum sound pressure levels given in the Standard, measured values, measurement procedures and conditions for the quantitative, reproducible recording of sound pressure levels in accordance with (2) and (3)/(3a) shall be established.

2. Measuring instruments

The measuring instrument shall meet the requirements of class 1 according to European Standard EN 61672-1 : 2003.

Before and after each set of measurements, a class 1 calibrator according to European Standard EN 60942 : 2003 shall be placed on the microphone in order to calibrate the measurement system. The compliance of the calibrator with the requirements of European Standard 60942 : 2003 shall be checked once per year. The compliance of the measuring equipment with the requirements of EN 61672-1 : 2003 shall be checked every two years.

3. Noise measurements for craft which were laid down after 1 April 1976

3.1 On board craft

Measurements shall be carried out in accordance with International Standard ISO 2923 : 2003 Sections 5 to 8 measuring only A-weighted sound pressure levels.

3.2 Air noise emitted from craft

Noise emissions from craft on inland waterways and in ports are determined by means of measurements in accordance with European Standard EN ISO 22922 : 2013, Sections 7 to 11. Doors and windows of engine rooms shall be closed during measurements.

3a. Noise measurements for craft which were laid down on or before 1 April 1976

3a.1 On board craft

Measurements shall be carried out in accordance with the International Standard ISO 2923 : 2003, sections 5 to 8, measuring only A-weighted sound pressure levels.

By way of derogation from paragraph 7, the sound pressure levels in the wheelhouse, in the engine room, as well as in the living and sleeping quarters shall be determined as a weighted energy-average of the measurements under four measuring conditions as shown in the table below:

Measuring conditions	% MCR	% maximum speed	Weighting factor
A	5 %	37 %	W_A = 0,26
B	25 %	63 %	W_B = 0,37
C	55 %	82 %	W_C = 0,23
D	85 %	95 %	W_D = 0,14

The final result of the measurements per room is calculated using the following formula:

$$L_{waSN} = 10 \cdot \log\left(W_A \cdot 10^{(0,1 \cdot L_A)} + W_B \cdot 10^{(0,1 \cdot L_B)} + W_C \cdot 10^{(0,1 \cdot L_C)} + W_D \cdot 10^{(0,1 \cdot L_D)}\right)$$

where:

L_{waSN}	=	weighted average sound pressure level for a vessel in dB(A);
L_A	=	measured vessel sound pressure level in dB(A) at measuring condition A;
L_B	=	measured vessel sound pressure level in dB(A) at measuring condition B;
L_C	=	measured vessel sound pressure level in dB(A) at measuring condition C;
L_D	=	measured vessel sound pressure level in dB(A) at measuring condition D, and
W_A, W_B, W_C, W_D	=	weighting factors for measuring conditions A, B, C and D.

3a.2 Noise emitted by craft

The measurement of noise produced by craft on inland waterways and in ports shall be carried out in accordance with European Standard EN ISO 2922 : 2013, sections 7 to 11. Doors and windows of engine rooms shall be closed during measurements.

4. Reporting

Measurements shall be subject of a report in accordance with the "Noise Measurement Report"

- appendix 1 for craft which were laid down after 1 April 1976,
- appendix 2 for craft which were laid down on or before 1 April 1976.

Appendix 1
Noise Measurement Report
- Craft which were laid down after 1 April 1976 -
- on board craft in accordance with International Standard ISO 2923 : 2003
- air noise emitted from craft in accordance with European Standard EN ISO 2922 : 2013*)

A Craft data

1. Craft type and name: .....

   Unique European vessel identification number: .....

2. Owner: .....

   .....

3. Main propulsion system

3.1 Main engines

Number	Manufacturer	Type	Year of construction	Power (kW)	Engine speed (min^{-1})	Two-stroke/four-stroke	Turbo-charged yes/no
1							
2							

3.2 Transmission

Manufacturer: ..... Type: ..... Gear reduction: 1.....

3.3 Propellers

Number: ..... Number of blades: ..... Diameter: ..... mm Nozzle: yes/no*)

3.4 Steering system

Type: .....

4. Generator sets:

Num-ber	Propulsion of	Manufacturer	Type	Year of construction	Power (kW)	Engine speed (min^{-1})
1						
2						
3						
4						
5						

5. Noise reduction measures implemented: .....

   .....

   .....

6. Observations: .....

   .....

   .....

*) Delete as appropriate

B Measuring instruments used

1. Sound pressure level meter

   Manufacturer: ..... Type: ..... Latest check: .....

2. Octave/Third octave band analyser

   Manufacturer: ..... Type: ..... Latest check: .....

3. Calibrator

   Manufacturer: ..... Type: ..... Latest check: .....

4. Accessories

   .....

5. Observations: .....

   .....

   .....

C Measurement conditions — craft

1. Formation during the measurements: .....
2. Load/displacement*): ..... t/m³ (approximately … % of maximum value)
3. Speed of main engine: ..... min^{-1} (approximately … % of maximum value)
4. Generator sets in service No .....
5. Observations: .....

   .....

   .....

D Measurement conditions — surroundings

1. Area of measurement: ..... Upstream/downstream*)
2. Water depth: ..... m (Relevant water level ..... = ... m)
3. Weather: ..... Temperature: ..... °C Wind strength: ..... BF
4. External noise interference: yes/no*), if yes, specify: .....
5. Observations: .....

   .....

   .....

E Recording of measurement

1. Measurement carried out by: .....
2. Date: .....
3. Observations : .....

   .....

   .....

4. Signature : .....

* Delete as appropriate

F.1 Measurement results

Noise measurements on board craft

No.	Measurement point	Doors		Windows		Mea-sured value in dB(A)	Observations
		open	closed	open	closed		

F.2 Measurement results

Measurement of air noise emitted from craft

No.	Measurement point	Measured values in dB(A)	Observations

Appendix 2
Protocol for measuring noise
- Crafts which were laid down on or before 1 April 1976 -

1. Measurement results

1.1 Measurements on board:

Date:	
Surveyor:	
Sound level meter type:	

Craft name:	
Unique European vessel identification number :	
Craft year built:	
Craft tonnage:	
Engine brand:	
Hp engine:	
Rigid mounting:	
Max engine speed:	
Propeller type:	

Brief explanation:

- fill in only the yellow fields,
- start with 85 and 55 % and check the outcome,
- for 25 % and 5 % the lowest value of 85 or 55 % is applied,
- in case of non-compliance: fill in 25 % and, if necessary, 5 %,
- when referring to compartments use “living quarter” or “sleeping cabin no.” or “engine room” or “wheelhouse”,
- for a manual calculation of the $L_{waSN}\ MCR$ -mix the following calculation tool can be used:
- $L_{waSN}[dB(A)] = 10\log\left[0{,}26 \cdot 10^{(L_{5\%}/10)} + 0{,}37 \cdot 10^{(L_{25\%}/10)} + 0{,}23 \cdot 10^{(L_{55\%}/10)} + 0{,}14 \cdot 10^{(L_{85\%}/10)}\right]$.

	Living quarter	Sleeping cabin 1	Sleeping cabin 2	Sleeping cabin 3	Wheelhouse	Engine room		MCR coefficient
85 % MCR							$L_{Aeq}\,[dB(A)]$	0,14
55 % MCR							$L_{Aeq}\,[dB(A)]$	0,23
MCR -mix							$L_{Aeq}\,[dB(A)]$	0,37
25 % MCR							$L_{Aeq}\,[dB(A)]$	0,37
MCR -mix							$L_{Aeq}\,[dB(A)]$	
5 % MCR							$L_{Aeq}\,[dB(A)]$	0,26
$L_{waSN}\ MCR$-mix							$L_{Aeq}\,[dB(A)]$	
Reference standard values	70,5	60,5	60,5	60,5	70,5	110,5	$L_{Aeq}\,[dB(A)]$	

Calculation tool measuring 85 and 55 %		
85 %	**55 %**	L_{waSN}
x dB	x-10	x-6,5
x dB	x-9	x-6,1
x dB	x-8	x-5,6
x dB	x-7	x-5,1
x dB	x-6	x-4,5
x dB	x-5	x-3,9
x dB	x-4	x-3,2
x dB	x-3	x-2,4
x dB	x-2	x-1,7
x dB	x-1	x-0,8
x dB	x	x
x dB	x+1	x+0,3
x dB	x+2	x+0,5
x dB	x+3	x+0,9
x dB	x+4	x+1,3
x dB	x+5	x+1,8

1.2 Measurement of noise generated by craft (EN 2922 : 2013):

No	Measurement point	Value in dB(A) to be measured	Observations

2. Noise reduction measures implemented:

.....

3. Observations:

.....

4. Measurement conditions - craft

a) Formation during the measurements: .....

b) Load/displacement*): ..... t/m^3 (corresponding to approximately ..... % of maximum value)

c) Generator sets in service No. .....

d) Observations: .....

5. Measurement conditions — surroundings

a) Area of measurement: ..... upstream / downstream*

b) Water depth: ..... m (relevant water level ..... = ... m)

c) Weather: ..... Temperature: ..... °C. Wind strength: ..... BF

d) External noise interference: no/yes*, if yes, specify .....

e) Observations: .....“

*) Delete as appropriate

46. ESI-II-5(C)(4) is worded as follows:

"4. Generator sets in service No ....."

47. ESI-II-9, Section 2(1.4) (concerns only the German version)

48. ESI-II-10 (concerns only the French version)

49. ESI-II-11 is amended as follows:

a) The heading is worded as follows:

"ESI-II-11
STEERAGEWAY UNDER VESSEL'S OWN POWER

(Article 9.09(2)(a), (4)(a), (5)(a), Article 11.01(2), (4) and (6), Article 11.02(2), Article 11.03(4), Article 11.04(3), Article 11.08(1), Article 13.05(2)(a) Article 19.07(1) Article 28.04(1)(a), Article 30.06)"

b) (1) is worded as follows:

"**1. Minimum requirements for vessel's steerageway**

Steerageway under a vessel's own power in accordance with Articles
- 9.09(2)(a), (4)(a), (5)(a),
- 11.01(2), (4) and (6),
- 11.02(2),
- 11.03(4),
- 11.04(3),
- 11.08(1),
- 13.05(2)(a),
- 19.07(1),
- 28.04(1)(a) and
- 30.06

is deemed to be sufficient if the vessel or the formation propelled by the vessel attains a speed of 6,5 km/h in relation to the water and a rate of-turn of 20°/min can be induced and maintained while under way at a speed of 6,5 km/h in relation to the water."

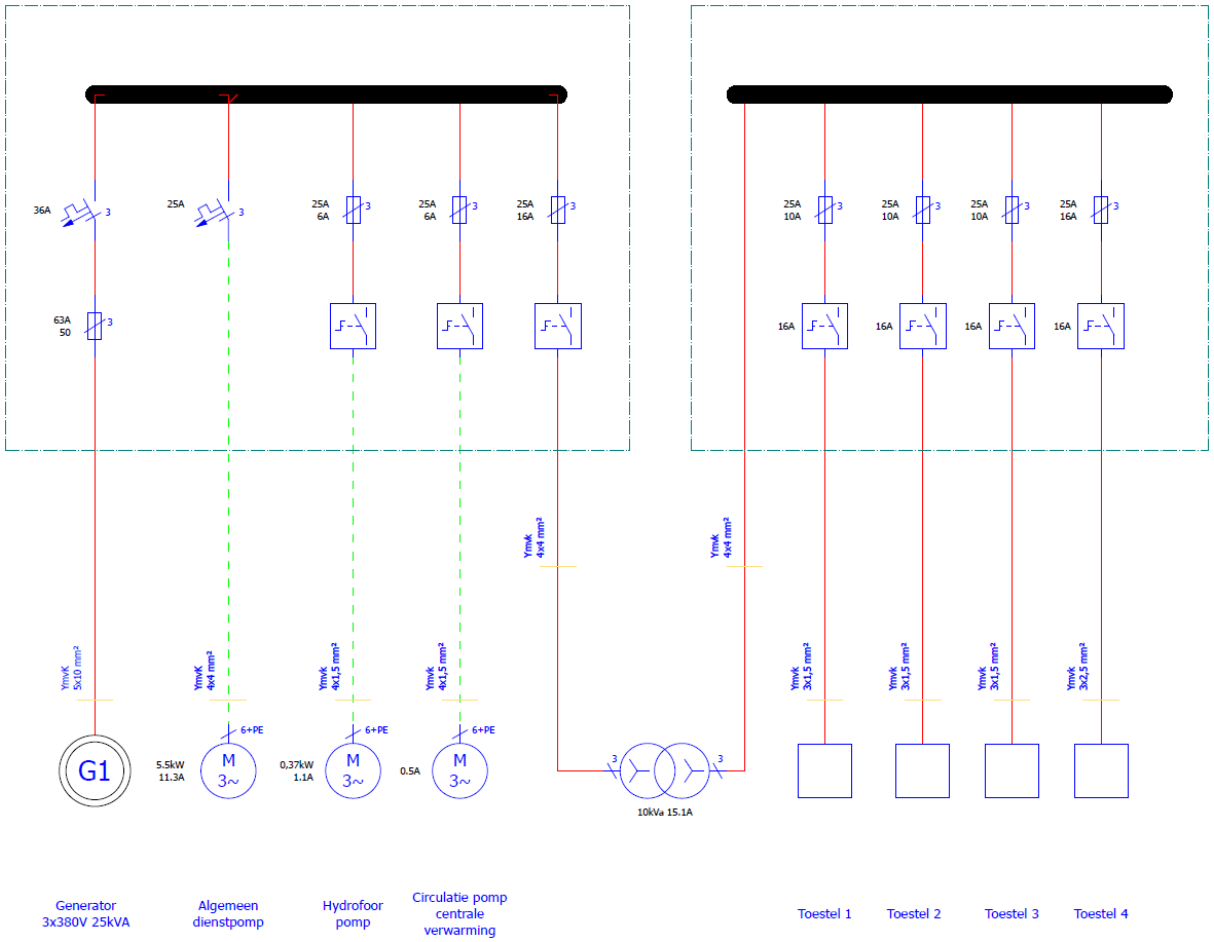
50. ESI-II-13 is worded as follows:

"ESI-II-13
MODEL FOR A LIMITED GENERAL PLAN OF THE ELECTRICAL INSTALLATION FOR CRAFT WHICH WERE LAID DOWN ON OR BEFORE 1 APRIL 1976

(Article 32.04(3))

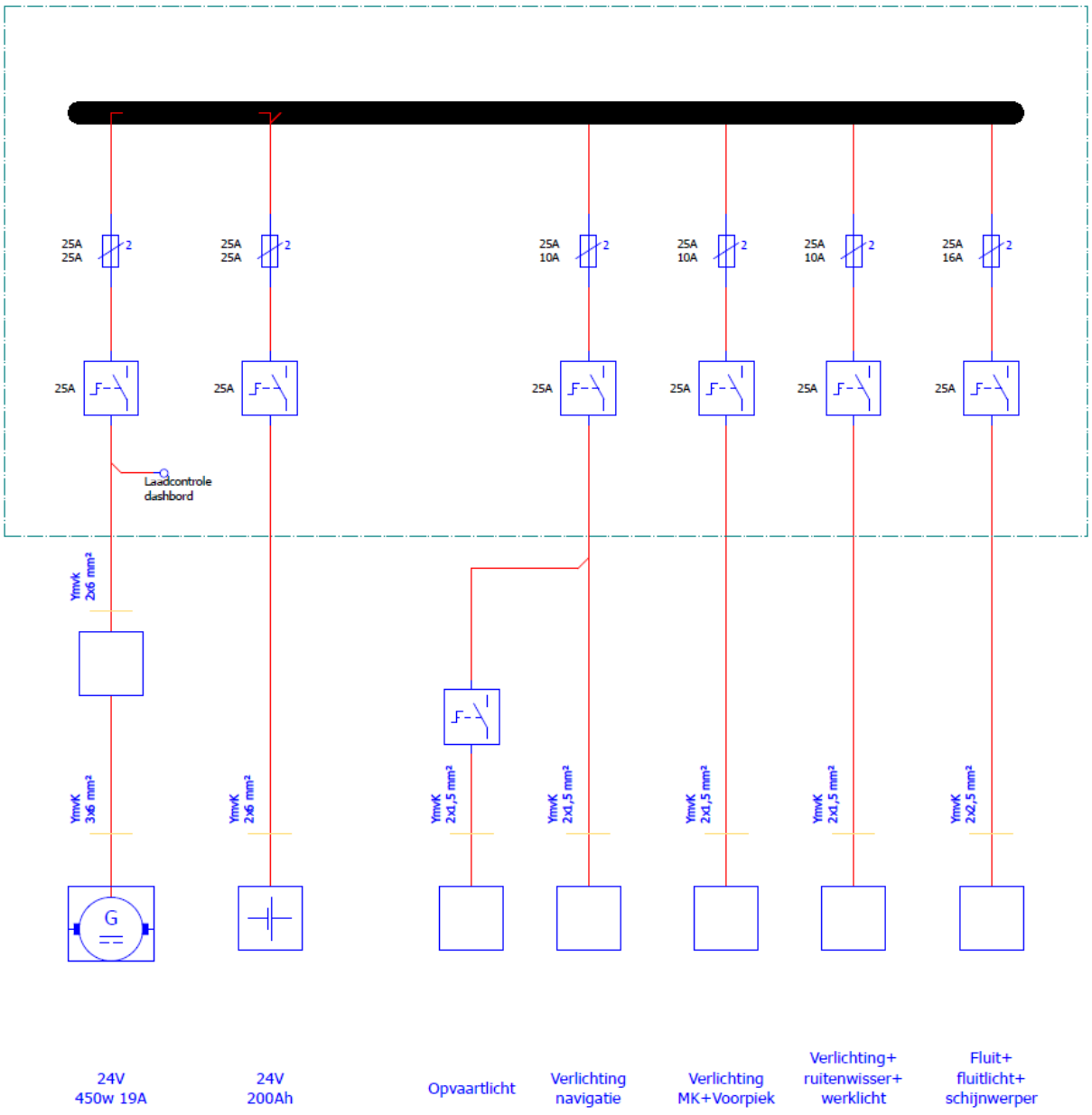
Example 1

Switchboard 380 V



Example 2

Switchboard wheelhouse 24 V



”

51. The instruction ESI-III-2(1), 4th paragraph, is worded as follows:

"The provisions concerning persons with reduced mobility make reference to:

- Directive 2009/45/EC[6] and
- the guide for the adaptation of inland waterway passenger vessels to people with disabilities in accordance with Resolution No 69 of the UNECE[7]."

52. ESI-III-5 (concerns only the German version)

***

[6] Directive 2009/45/EC of the European Parliament and of the Council of 6 May 2009 establishing safety rules and standards for passenger ships (OJ L 163, 25.6.2009).

[7] Guidelines for passenger vessels also suited for carrying persons with reduced mobility - United Nations Economic Commission for Europe, Inland Transport Committee, Working Group on Inland Water Transport - Adopted on 15 October 2010.