MCIB
Marine Casualty Investigation Board
Bord Imscrúdú Taismí Muirí

REPORT OF AN INVESTIGATION INTO AN INCIDENT INVOLVING A PLEASURE CRAFT WHILE ON OPERATIONS ON THE RIVER SHANNON CLOSE TO JAMESTOWN, CO. ROSCOMMON 6 SEPTEMBER 2020

REPORT NO. MCIB/303
(No.1 OF 2022)

The Marine Casualty Investigation Board (MCIB) examines and investigates all types of marine casualties to, or on board, Irish registered vessels worldwide and other vessels in Irish territorial waters and inland waterways.

The MCIB objective in investigating a marine casualty is to determine its circumstances and its causes with a view to making recommendations to the Minister of Transport - for the avoidance of similar marine casualties in the future, thereby improving the safety of life at sea and inland waterways.

The MCIB is a non-prosecutorial body. We do not enforce laws or carry out prosecutions. It is not the purpose of an investigation carried out by the MCIB to apportion blame or fault.

The legislative framework for the operation of the MCIB, the reporting and investigating of marine casualties and the powers of MCIB investigators is set out in the Merchant Shipping (Investigation of Marine Casualties) Act, 2000.

In carrying out its functions the MCIB complies with the provisions of the International Maritime Organisation's Casualty Investigation Code and EU Directive 2009/18/EC governing the investigation of accidents in the maritime transport sector.

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The Marine Casualty Investigation Board was established on the 25th March 2003 under the Merchant Shipping (Investigation of Marine Casualties) Act, 2000.

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Glossary of Abbreviations and Acronyms

AC	Alternating Current
AGS	An Garda Síochána
AIS	Automatic Identification System
C	Celsius
CoP	Code of Practice for the Safe Operation of Recreational Craft(2017)[1]
DC	Direct Current
EEA	European Economic Area
EU	European Union
LPG	Liquefied Petroleum Gas
MN	Marine Notice
PFD	Personal Flotation Device
PVC	Polyvinyl Chloride
SOLAS	The International Convention for the Safety of Life at Sea
UTC	Co-ordinated Universal Time
VHF	Very High Frequency

Kilometres	km
Kilowatts	kW
Litres	(lts)
Metres	m
Millimetres	mm
Nautical miles	NM
Tonnes	t[2]

1. Updates to the Code of Practice: The Safe Operation of Recreational Craft (2017), (Marine Notice (MN) No.51), were published in November 2019. The updates can be downloaded in electronic format at:https://www.gov.ie/en/publication/66ff7e-safe-operation-of-recreational-craft/

2 Gross Tonnage is a nonlinear measure of a ship's overall internal volume. In the regulations which govern the measurement of ships the 'tonnage' measurement is one of capacity, the unit of one ton being a capacity measurement of 100 feet cubed (ft 3). Gross Tonnage should not be confused with measures of mass or weight such as deadweight tonnage or displacement. Gross Tonnage is calculated based on "the moulded volume of all enclosed spaces of the ship" and is the total internal capacity of a ship measured from the top of the floors or ceiling to the tonnage deck including the fore and aft peak tanks above the floors. Gross Tonnage is used to determine issues such as a ship's manning regulations, safety rules, registration fees and port dues. Gross tonnage is defined by the International Convention on Tonnage Measurement of Ships, 1969, adopted by the International Maritime Organization in 1969, and came into force on 18 July 1982.

Report MCIB/303 published by the Marine Casualty Investigation Board.

Produced 17th January 2022.

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1. SUMMARY

1.1 On 6 September 2020 four clients of Carrickcraft, having rented a Linssen Grand Sturdy 35.0 motor cruiser on the previous day, departed Carrick-on-Shannon heading south. Approximately 45 minutes into their journey, near Jamestown, a fire broke out in the engine compartment. The clients abandoned the vessel onto a passing charter boat. The fire brigade attended the scene and extinguished the fire. Soon afterwards the vessel sank in approximately eight metres (m) of water.

Note: All times are local time = Co-ordinated Universal Time (UTC) unless specified.

2. FACTUAL INFORMATION

2.1 Vessel Details

Type:	Linssen Grand Sturdy 35.0 AC.
Vessel Name:	*"X4"*.
LOA:	9.85 m.
Beam:	3.3 m.
Draft:	1.0 m.
Displacement:	10.765 tonnes (t).
Engine:	Nanni 62.5 kilowatt (kW).
Year of Build:	2017.
Hull Material:	Steel hull with steel upper works.
CE Classification:	See Appendix 7.8 and Paragraph 2.10.3.
Owner:	Carrickcraft (Shannon Leisure Development Co Ltd).

Cruise Ireland is the group name for Carrickcraft, Waveline Cruisers, Locaboat Holidays Ireland and Linssen Boating Holidays in Ireland. They own a total of 121 boats across all fleets.

See Appendix 7.1 Linssen Grand Sturdy 35.0.

2.2 Vessel Description and Layout

Motor cruiser with steel hull and upper-works with wheel steering and controls on the upper after deck. Below deck consists of a large double cabin forward with adjacent bathroom and shower room, a centre saloon (living area) comprising seating and cooking facilities, and a large double cabin aft with adjacent bathroom. The engine compartment with fuel tank is below the saloon and is accessed by lifting a hatch on the saloon floor. The engine compartment contains a main propulsion engine centre, batteries secured on starboard side, battery charger, inverter, battery isolator switch and circuit breaker panels located at the starboard after corner, pumps and water boiler located on the port side and a Heptafluoropropane (HFC-227) automatic extinguisher located on the port forward corner. Another hatch on the saloon floor forward of the fuel tank opens a storage compartment in which the anchor can be stored. The steering position and controls on the upper deck are above the after end of the saloon and off to starboard and directly above the after end of the engine compartment.

See Appendix 7.2 Linssen Grand Sturdy 35.0 Layout.

See Appendix 7.3 Engine Compartment Layout.

See Appendix 7.4 After Starboard Corner of Engine Compartment (Image Taken of Sister Vessel).

2.3 For safety, it is a condition of hire that clients of Carrickcraft undertake instruction in the theory of boat craft prior to boarding a cruiser. Once onboard the cruiser, further hands-on tuition is provided by a member of staff. An option offered by Carrickcraft is for clients to complete and submit an on-line tutorial so that they can undertake the theoretical instruction prior to arriving at the marina. The on-line tutorial is divided into 12 modules. Each module covers a different topic and consists of a number of slides. Every module has a short quiz at the end and when the client has completed all the modules, they can complete the 'Big Quiz' and bring the results to the marina. The tutorial consists of the following modules:

2.3.1 Be prepared and be safe - This module provides basic safety guidelines, telling the client to show the tutorial to the rest of the party, for all clients to wear a Personal Flotation Device (PFD) while on deck or while on the pontoons, for all clients to save the phone number of Carrickcraft on their phones and for all clients to familiarise themselves with the location of safety equipment when onboard. It is stated in this section that a fully charged mobile phone with international roaming is an essential requirement when hiring a Carrickcraft boat.

2.3.2 Onboard facilities – In this module the captain's handbook and the navigational guide are introduced. The captain's handbook contains many answers to questions clients may have and also contains local information such as useful telephone numbers. The navigation guide to the Shannon and Erne waterways includes charts of loughs and waterways, drawings of harbours and jetties, instruction on operating locks and navigation tips. Equipment included on all Carrickcraft boats is a fitted AM/FM radio for receiving weather forecast.

2.3.3 Boat craft – This module details basic boat craft skills and lists the nautical terms and components that the client is required to be familiar with, such as the helm, the throttle, and the various terms for parts of the boat. The importance of stowing equipment safely is stressed here and instructs the clients to charge the batteries every day using the engine and encourages the clients to recycle their waste appropriately. This module also details how bunkering of water and fuel is achieved and how to pump out the sewage tank.

2.3.4 Mooring and casting off – Details boating etiquette, how to use the navigation guide to plan approach to jetty, ensuring all crew put on their lifejackets and recommends briefing the crew on the berthing plan so that everyone knows where they should be. The method for berthing in different wind conditions is also

detailed here and the steering characteristics of boats are explained.

2.3.5 Cruising the waterways – This covers the rules of navigation and boat handling basics. The clients are encouraged to practice manoeuvring the boat on the first day of their cruise in a sheltered area and to maintain a safe speed at all times.

2.3.6 Shannon navigation – This module details the characteristics on the charts which every client must be aware of to safely navigate the Shannon waterway, including navigation marker colours and shapes and the colours on the charts indicating safe water, shallow water and land.

2.3.7 Erne navigation - This module details the characteristics on the charts which are unique to Lough Erne.

2.3.8 Using locks – This section gives the client instructions on how to use the manned and un-manned lock gates throughout the waterway.

2.3.9 Emergency procedures – Carrickcraft emphasises in this module that the safety of people comes before that of the cruiser or other property. The clients are instructed in the case of an emergency to keep calm and to don PFDs. The tutorial lists potentially dangerous events such as breakdown in strong wind, major collision, person in the water, illness or a gas leak, and instructs the clients on what to do in each event. It then goes on to list what would be considered a serious major emergency and lists the actions to be taken and in what order. These include person in the water and not easily retrievable, sinking, critically ill person onboard and fire. If a serious fire breaks out and the clients cannot extinguish with a fire extinguisher, then they are instructed to abandon the vessel using whatever means necessary. If moored they are to get onto the jetty and if on the water to run the cruiser ashore or get into the dingy with PFDs on, to call 999 and ask for the fire brigade and then to call Carrickcraft. In this section clients are informed that a dingy is an essential safety aid and that Carrickcraft requires any client not requiring one to sign a disclaimer.

2.3.10 Anchoring – Details anchoring procedures on Carrickcraft boats.

2.3.11 Onboard equipment – Details the procedures for using the equipment onboard the vessels, including the toilets, galley, helm and throttle and explains how to change over control on vessels with a fly bridge.

2.3.12 Knots – This module lists and explains the few useful knots that clients will need during their cruise.

http://tutorial.cruise-ireland.com

2.4 A safety video is also available to view before arrival or on the day. The safety video reiterates the content of the online tutorial. The practical demonstration delivered on the first day of hire is combined with an inventory check of safety equipment, engineering checks and housekeeping checks. The induction checklist made available to the Marine Casualty Investigation Board (MCIB) details the checks made for this hire and states that the clients had completed the online tutorial, had been introduced to the captain's manual for the particular vessel and completed a practical demonstration lasting 40 minutes. The practical demonstration concentrated on giving the clients a tour of the boat and hands on practice manoeuvring the boat in and around the marina. The induction checklist includes the following two check points:

- *I have taken the dingy as advised by Carrickcraft. I realise that it is a safety aid.*
- *I have removed/refused the dingy against the advice of Carrickcraft. I realise that it is a safety aid.*

Neither of these check points had been ticked on the Induction checklist signed by the client.

https://www.youtube.com/watch?v=wxxDh7VktJw

See Appendix 7.5 *"X4"* Induction Checklist.

2.5 The fuel tank on a Linssen Grand Sturdy 35.0 can be isolated remotely from the main saloon (layout detailed in paragraph 2.2) but induction instructions do not detail requirements to isolate the fuel tanks in the case of a fire.

2.6 Carrickcraft maintains a computerised planned maintenance system for all their vessels and maintenance is carried out and recorded by their own staff. Maintenance records for the vessel *"X4"* have been made available to this investigation, detailing planned and un-planned maintenance events for the entire life of the vessel.

Four maintenance events of note are:

13 July 2018 - Attending engineer had to fit a temporary bridge to get power to the main engine control panel. This temporary bridge was then removed.

11 November 2019 - 220 volt sockets fitted to rear cabin.

27 November 2019 – New start isolator switch fitted. This was a replacement switch for the starting system for the engine and when fitted was located in a more accessible position.

See Appendix 7.6 Start Isolator Switch.

15 June 2020 – D socket fitted to heater for diagnostic purposes.

4 August 2020 - Attending engineer had to fit a wire across the diode block to bridge power to the starting system, similar to issue on the 13 July 2018.

See Appendix 7.7 *"X4"* Maintenance Records.

2.7 Carrickcraft has a service contract with a company to service all the fire appliances on all 121 of their vessels and in their shoreside facilities.

2.8 Carrickcraft has a service contract with a company to service and check the gas installation onboard all their 121 vessels.

2.9 The electrical system on *"X4"* can be divided into a number of fully isolated 12V systems and one 230V system.

2.9.1 **12 Volt starting circuit**

The engine starter motor is the main consumer for the starting circuit. The starter motor is used to start the engine. The engine is also fitted with an alternator (12V) that charges all the batteries (onboard power system, starting circuit, heavy-duty consumer circuit) while the engine is running. The main switch for the starter circuit is located in the engine room.

2.9.2 **12 Volt onboard power system**

All the consumers, including lighting and pumps, are connected to the onboard power system.

2.9.3 **230V circuit**

Consumers, such as outlet sockets on the 230V circuit can function if connected to the shore power supply or inverter.

2.9.4 A Combi inverter is also connected to the onboard power system. This is a combined battery charger, inverter and switching device, which charges the batteries while the vessel is plugged into shore power and inverts the Direct Current (DC) voltage from the batteries to 220V Alternating Current (AC) voltage while the vessel is not on shore power.

2.9.5 Energy for 12 volt systems (starting circuit, onboard power circuit, heavy-duty consumer circuit) is stored in batteries.

2.10 Regulations and Recommendations Applying to Charter Vessels

2.10.1 Where passengers are carried by commercially operated craft manned by a skipper and crew, they are regarded as passenger vessels and are subject to the requirements of the Merchant Shipping Act 1992, as amended, and any associated rules and regulations.

2.10.2 As charter vessels operating on the inland waterways network are not manned by a commercial skipper and crew, they are considered recreational craft and are subject to the requirements of the Code of Practice (CoP): for the Safe Operation of Recreational Craft. It is the responsibility of owners and operators of recreational craft to ensure that a vessel is properly maintained, equipped, and operated. This CoP aims to assist owners and operators in their responsibility by setting out legislative requirements governing recreational craft and best practice for vessel standards, equipment, and operation for the different types of recreational craft and their areas of operation. The CoP is in two parts followed by a series of appendices:

2.10.2.1 Part A of the CoP outlines the legislative requirements that apply to all recreational craft or specific types or size of craft. Owners and operators must comply with the requirements appropriate to their craft. The regulations include the following:

- Marine Notices.
- Collision Regulations.
- SOLAS Chapter V – safety of navigation.
- The International Convention for the prevention of pollution from ships (MARPOL).
- Wearing of Personal Flotation Devices/Lifejackets.
- Operation of recreational craft – minimum age levels.
- Controls on alcohol and drugs.
- Marine Equipment Directive.
- The Marine Recreational Craft Directive 2013/53/EU.
- Marine Casualty Investigation Board.
- Harbours Acts – Powers of Harbour Masters.
- Radio Communications.

2.10.2.2 Part B of the CoP contains recommended guidelines and best practice for the safe operation of recreational craft. The recommendations include a safety equipment checklist in tabular form detailing the type and quantity of equipment that craft should carry for their category of craft. In the instance of the type and size of vessel that this report is considering, the firefighting appliances are to include:

- Fire blanket – CE marked.
- 2 x Fire extinguishers, one of which is suitable to fight oil fires in engine spaces.
- All cooker/heaters using Liquefied Petroleum Gas (LPG) should be installed as outlined in Marine Notice No. 37 of 2017.

The Linssen Grand Sturdy 35.0 involved in this incident had on board the following:

- 1 water extinguisher in the saloon.
- 1 dry powder extinguisher in the saloon.
- 1 dry powder extinguisher in each cabin.
- 1 fire blanket.
- Heptafluoropropane (HFC-227) automatic extinguisher in the engine compartment. This is a thermally activated extinguisher which sets off an audible alarm as a release warning and is thermally triggered at 80° Celsius (C).

2.10.3 The Marine Recreational Craft Directive 2103/53/EU lays down requirements for the design and manufacture of recreational craft and rules on their free movement within the European Union (EU). The EU Declaration of Conformity is the document stating that the product satisfies the essential requirements of the Directive. The Recreational Craft Directive has been introduced by the European Commission to ensure a uniform level of safety in the design and manufacture of recreational craft throughout the European Economic Area (EEA). The Directive applies to all craft intended to be used for sporting and recreational purposes with a hull length of between 2.5 and 24 m. The administration requirements are that the product be marked with the CE Logo. The Directive lays down requirements for self-certification by the manufacturer of the craft, or for type testing by a notified body and/or quality control procedures. These are set out in a series of 'modules' and are based on the size of the craft, the sea conditions in which it is intended to be used and whether any of the appropriate harmonized standards have been used when designing it. These harmonized standards contain the details of safe product design, and they may include specifications for

insulation strength, material compatibility, limits of rise in temperature and many other safety related specifications. There are 27 standards used in the manufacture of the vessel considered in this report and all the standards used are listed in the Declaration of Conformity in the below appendix.

See Appendix 7.8 Declaration of Conformity.

2.10.4 This investigation considers the International Standard ISO 10133:2012 for Small Craft — Electrical systems — Extra-low-voltage DC installations is the standard to which a vessel must comply to meet the requirements of the Directive and states the following:

Part 6 – Battery disconnect switch: *A battery-disconnect switch shall be installed in the positive conductor from the battery, or group of batteries, connected to the supply system voltage in a readily accessible location, as close as practical to the battery or group of batteries.*

Part 7.2 – *Conductors that are not sheathed shall be supported throughout their length in conduits, cable trunking, or trays, or by individual supports at maximum intervals of 300 mm.*

2.11 The isolating switch for the batteries on *"X4"* was located in the starboard aft corner of the engine compartment, accessible only by lifting the hatch to the compartment.

See Appendix 7.9 Sister Vessel Engine Compartment.

2.12 An inspection of one of the sister vessels to *"X4"* revealed that the conductors are supported throughout their length by individual supports but that they are not secured by cable ties.

See Appendix 7.10 Starboard Side Inside Engine Compartment of Sister Vessel.

2.13 It is recommended that all recreational craft carry at least one means of approved marine radio communications equipment in order to enable the initiation of a distress alert in the event of an emergency. If marine radiocommunication equipment is voluntarily fitted or carried on any type of recreational craft, the vessel must be licensed in accordance with the Wireless Telegraphy Act 1926, as amended. The basic requirements to obtain a Ship Station Radio Licence are that the radio equipment must be a type approved in accordance with either the Marine Equipment Directive and that the personnel operating the radio equipment must hold an appropriate Radio Operator's qualification. Carrickcraft vessels do not have Very High Frequency (VHF) radios installed but as mentioned in paragraph 2.3.1 a fully charged mobile phone with international roaming is an essential requirement when hiring a Carrickcraft

boat.

2.14 Each through-hull inlet and outlet below the waterline is fitted with a stopcock. Stopcocks are used onboard a vessel to open and close joints through which liquids flow. These are found in many systems, including the cooling water inlet to the engine, the water inlet to the two toilets, cooling water inlet to the propeller shaft and the drain pump for the black water tank. Typically, water intake hoses are made from Polyvinyl Chloride (PVC) with stainless steel spiral reinforcement. In the event of a major fire onboard it is not possible to close these stopcocks and should the fire burn through a hose located below the waterline, then water will flow into the vessel. An example of the cooling hose to the propeller shaft is shown in the below appendix.

See Appendix 7.11 Propeller Shaft Bearing Cooling Hose on Sister Vessel.

2.15 The combustion process of a running diesel engine uses a lot of air. The air supplied to the main engine on any vessel is supplied through vents located well above the vessel's waterline. The vents on the Linssen Grand Sturdy 35.0 involved in this incident, like many inland waterway rental craft, have no means of being closed.

2.16 An electrical timer relay identified as being for the forward shower drain pump on a sister ship, *"X1"*, was found with burn marks and not as it should be when compared to *"X4"*. This is located adjacent to the batteries and battery charger in the after starboard corner of the engine compartment.

See Appendix 7.12 Close up of Isolating Switch and Timer Relay.

2.17 Zetetech Forensic Investigators carried out an Inspection of the vessel on Thursday 29 October 2020 and Tuesday 17 November 2020 – the following paragraphs are quoted from their report:

2.17.1 *Damage - Severe fire damage had been sustained by the vessel. All combustible material above the waterline on the starboard side has essentially been consumed by fire including all plastic coatings. Damage is less severe to the port side. There is evidence of distortion to the steel structure of the vessel including the hull. Distortion is evident to the superstructure at both port and starboard sides and on the fly bridge and to the deck. All combustible material within the saloon and forward and aft cabins has been severely damaged by fire with charring evident to timber partitions and finishes. The electrical system sustained severe fire damage. The engine has also sustained significant fire damage.*

2.17.2 *Area of Origin and Spread of Fire*

I consider the physical and witness evidence to be consistent with fire originating in the area of the electrical installation in the aft starboard corner of the engine compartment. I consider that fire has developed and spread to involve initially combustible material associated with the electrical installation and surrounding supports structure before spreading to involve the remainder of combustible material in the saloon and the vessel more widely.

2.17.3 *Cause of Fire*

2.17.3.1 *Deliberate Act - I found no evidence during the course of my investigation to support the hypothesis that fire occurred as a result of a deliberate act.*

2.17.3.2 *Carelessly Discarded Smokers' Materials - I considered the possibility that fire occurred as a result of carelessly discarded smokers' materials. I do not know if any of the party are smokers however taking cognisance of the area in which fire appears to have originated and the nature of construction and finish of the vessel I consider it extremely unlikely that any carelessly discarded smokers' materials could enter the engine compartment. Further, I do not consider the materials present and the configuration of the engine compartment are such that carelessly discarded smokers' materials would be likely to cause smouldering ignition of material within the engine compartment. I do not consider that fire has occurred as a result of carelessly discarded smokers' materials.*

2.17.3.3 *Defect in Engine/Fuel System or Lubricating Systems - I considered the possibility that fire occurred as a result of a defect in the engine or associated fuel oil or lubricating system. The engine appears to have suffered damage consistent with external heat and fire attack. I undertook a detailed examination of the electrical system specifically that which is unfused and permanently live providing power to the engine. I observed no evidence of unintended electrical activity which would be consistent with a fire originating in the area of the engine and spreading to involve the remainder of the engine compartment. All fuel lines and connections were observed to be tight and I observed no evidence of breakage of fuel or lubricating oil lines such that could give rise to an escape of fuel or lubrication oil. I do not consider that fire occurred as a result of a defect in the engine or associated fuel or lubricating oil systems.*

2.17.3.4 *Defect in Electrical Installation - I considered the possibility that fire occurred as a result of a defect in the electrical installation of the vessel. My inspection of the remains of the vessel revealed evidence of unintended electrical activity (arcing) between positive and neutral conductors connected to the batteries of the vessel. This is consistent with fire attack to the insulation of such conductors and is indicative of a fire in relative proximity to the batteries, i.e. in the electrical installation of the vessel. I observed the remains of the*

*inverter from the vessel and have recovered same should detailed inspection be required. However my preliminary examination of the inverter leads me to consider it is likely that it has suffered the effects of external fire and heat attack causing melting to the external casing at the top. Internal components appear largely intact and I observed no evidence of a causal defect at this juncture within the inverter. I excavated the area of the electrical installation in the aft starboard corner of the engine compartment. Whilst I found the remains of a number of components including mains switches and conductors which would have been connected to the batteries and the common connections, I did not find the remains of smaller components, for example, timer controls and battery control devices. I did not find these remains due to the extent of fire damage in the area and the subsequent sinking of the vessel which has obviously caused significant quantities of water to enter the engine compartment and cause displacement of badly fire damaged components. I considered the witness evidence of smoke within the engine compartment and also percolating up through cable conduits to enter a cupboard in the saloon immediately above the area of the electrical installation to be indicative of a fire in the electrical installation in the engine compartment below. Further the evidence of unintended electrical activity on the cabling associated with the batteries is also indicative of a fire originating in the area of the electrical installation. Examination of sister vessels and specifically vessel X1 showed evidence of overheating and melting of cabling connected to timer controls which I believe are associated with forward bow thruster *see Note below*. No remnants of similar components were recovered from the incident vessel due to the severity of fire damage sustained. I examined the remains of 250 amp fuses protecting the bow and stern thrusters and the windlass. These showed damage consistent with the fuses having operated likely as a result of short circuit. This was likely caused by fire attack to insulation of cabling downstream of the fuses which has resulted in operation of the fuses. I consider that this evidence is consistent with a fire originating in the electrical installation causing damage to insulation of cables downstream of the fuses. I cannot exclude the possibility that a defect due to abrasion of insulation where cables were routed over metal structural components in the engine compartment could have occurred. On balance I consider the most likely cause of fire to be a defect in the electrical installation of the vessel. However, due to the severity of fire damage and subsequent sinking of the vessel, physical evidence of any specific defect was not found.*

Note This timer relay has subsequently been identified as being for the forward shower drain pump as detailed in paragraph 2.16.

2.17.4 *Conclusions and Recommendations - Fire has originated in the aft starboard section of the engine compartment of the incident Linssen Grand Sturdy 35 AC yacht. Fire has developed within this area of the engine compartment to*

spread and cause damage to the remainder of the engine compartment and indeed the remainder of the vessel. At this juncture I consider the most likely cause of fire to be a defect in the electrical installation of the vessel. However, due to the severity of fire damage sustained and the subsequent sinking of the vessel physical evidence of a specific defect has not been found. I cannot exclude the possibility that a defect due to abrasion of insulation where cables were routed over metal structural components in the engine compartment could have occurred. I cannot exclude the possibility that a defect may have occurred at connections on the electrical installation. Overheating at connections on timer components associated with the thrusters was observed on a sister vessel. I recommend that the electrical installations of all sister vessels are fully inspected and certified to ensure no defects are present and any incipient defects are rectified.

3. NARRATIVE

3.1 Four clients chartered a Linssen Grand Sturdy 35.0 for a seven day cruise from Carrickcraft, based at Carrick-on-Shannon and arrived on Saturday 5 September 2020. They had previously completed the on-line tutorial detailed in paragraph 2.3 and they spent a total of 40 minutes on a tour of the vessel and were given a practical demonstration, where the acting skipper of the party of four demonstrated un-docking and berthing the vessel to the satisfaction of Carrickcraft staff. This demonstration concentrated on the boat handling characteristics of the vessel and assessing the competence of the acting skipper to handle the vessel safely.

3.2 The party decided to stay in Carrick-on-Shannon on the Saturday night and then head off on Sunday morning. They left Carrick-on-Shannon at approximately 10.30 hrs on Sunday 6 September 2020, heading south.

See Appendix 7.13 Chart Carrick-on-Shannon to Jamestown.

3.3 They cruised for approximately 45 minutes when they noticed smoke coming from the navigation control panel and coming up through the floor of the saloon. They stopped the boat and turned off the engine. As the vessel drifted to the side of the river, they re-started the engine and manoeuvred to the centre of the river again. One of the party went to get the anchor which was stored in a locker under the saloon floor. At this point they found the compartment was full of smoke, so much so that it prevented them from getting the anchor out.

See Appendix 7.14 Storage Compartment.

3.4 The customers, already wearing their PFDs, phoned the out of hours number for the charterers, Carrickcraft, but there was no answer. They then called the phone number for the Banagher Carrickcraft office and spoke to a member of staff. The staff member told them to drive the boat to the shore and get off the boat *"as soon as possible"*, and even suggested they jump into the water. The service boat was launched in Carrick-on-Shannon and staff proceeded down river to meet the clients, as they understood from the clients that they were not near a mooring.

3.5 Approximately ten minutes later an audible alarm could be heard from inside the vessel. This was likely the release warning on the thermally activated fire extinguisher located in the engine room. Shortly after this time the clients abandoned the vessel mid river onto another passing charter vessel, leaving the vessel adrift.

3.6 When the Carrickcraft service boat arrived, the clients had already left the boat and had been brought to the nearest mooring at the end of Jamestown Canal. The mooring is 150 m from where the boat then was, but it is not immediately visible from the Shannon River. An Garda Síochána (AGS) were already on the scene, as was the fire brigade, having been notified by a member of the public. Once the fire brigade established that all of the clients were accounted for, they set about getting access, via a farmer's field, to the boat which was close to shore at this point.

See Appendix 7.15 *"X4"* on Fire Port Side Perspective.
See Appendix 7.16 *"X4"* on Fire Starboard Side Perspective.

3.7 The clients were brought to a hotel in Carrick-on-Shannon and they remained there all afternoon and stayed in the hotel on Sunday night as the party were extremely tired and the key to their car had remained with their belongings on the boat when they abandoned it.

3.8 The fire brigade extinguished the fire and was able to board the vessel whilst standing on one of their ladders, as it was close to the riverbank. Soon after the fire was extinguished the boat started to sink. It sank within a few minutes in approximately eight to ten m of water.

See Appendix 7.17 *"X4"* on Fire.

3.9 On the 12 October 2020 the owners appointed a salvage contractor, who successfully lifted the vessel from the river bottom, and it was lifted out at the Carrickcraft base in Carrick-on-Shannon.

3.10 A forensic investigator attended the vessel from Zetetech Forensic Investigators to assess the damage for the insurance company. The vessel was found to be completely burned out, but the investigator was able to confirm that the origin of the fire was at the starboard aft side of the engine compartment, and that the cause was electrical malfunction (see paragraph 2.17.4). During the process of this investigation the MCIB investigator also inspected the wreck and concurs with the findings of the forensic investigator. This conclusion is supported by the following observations.

3.10.1 The discolouration of the shell plating adjacent to the electrical panels, battery charger and inverter, indicating the greatest heat.

See Appendix 7.18 Starboard Side *"X4"*.

3.10.2 It was about ten minutes before the automatic fire extinguisher activated and its alarm was heard. This was due to the distance of the seat of the fire from the extinguisher, being on opposite corners to each other in the engine compartment. It would have taken time for the heat level in the engine space to reach the 80°C threshold before it activated.

See Appendix 7.19 Engine *"X4"*.
See Appendix 7.20 Starboard Side Inside *"X4"*.

4. ANALYSIS

4.1 Having cruised for 45 minutes, the clients on Carrickcraft *"X4"* noticed smoke coming through the navigation control panel, and the saloon floor and on further examination found thick smoke in the storage space forward of the engine compartment. As per the induction instructions in the on-line tutorial the clients contacted Carrickcraft by mobile phone and on realising that the fire was major, they abandoned the vessel onto a passing charter boat.

4.2 The vessel *"X4"* did not have a fire detection system onboard to give an early warning of a fire and there is no requirement in the CoP to have one installed. After approximately ten minutes and while standing on the swim platform on the stern of the vessel the clients heard an audible alarm before leaving the vessel. This alarm was the alarm for the automatic fire extinguisher which is thermally activated once the temperature has risen to 80°C.

4.3 It has been determined that the seat of the fire was in the aft starboard corner of the engine compartment because the discolouration of the shell plating adjacent to the electrical panels, battery charger and inverter, indicates the greatest heat, and it was about ten minutes before the automatic fire extinguisher activated and its alarm was heard. This was due to the distance of the seat of the fire from the extinguisher, being on opposite corners to each other in the engine compartments. It would have taken time for the heat level in the engine space to reach the 80°C threshold before it activated. Due to the extent of the damage, the exact component at fault will never be definitely determined. However, there are a number of possible scenarios.

4.3.1 An inspection of one of the sister vessels of *"X4"* owned by Carrickcraft showed that the conductor cables for both the DC and AC electrics are supported by flat steel bars spaced 300 millimetres (mm) apart as per the international standard detailed in paragraph 2.10.3, however none of the cables are secured by ties. In a vessel which is liable to vibrate and move, any cables not secured will over time chafe and expose the copper conductors presenting a potential fire hazard. It is unlikely, given the age of *"X4"* that that is what happened in this case.

4.3.2 The maintenance records for *"X4"* show that during its short lifetime and on two occasions the attending engineer had to fit a temporary bridge across the diode block to get power to the main engine control panel. This indicates there was a drain on the start batteries present and if this drain was not investigated and repaired, it may have developed into a full short circuit, delivering a large current across the affected conductors and becoming a potential fire source. Due to the extent of the damage, it will never be determined if this is what happened.

4.3.3 The replacement and relocation of a battery isolating switch mentioned in paragraph 2.6 was also observed on the other Linssen 35s in the Carrickcraft

fleet. These modifications were completed by the resident electrician. This was fitted as the factory installed switch was difficult to access. The wiring for this modification observed on the sister vessels appeared to be of the approved size and type however the wires to and from the switch were unsupported and in contact with the steel hull. Any movement of these cables would cause chafe and an eventual breakdown of the insulation leading to a short circuit condition and a potential fire hazard. Due to the extent of the damage, it will never be determined if this is what happened.

4.3.4 The electrical timer relay mentioned in paragraph 2.16 and identified as being for the forward shower drain pump was found with evidence of burning. This is located adjacent to the batteries and battery charger in the after starboard corner of the engine compartment, where it has been determined the fire started. Any burning on an electrical component indicates an overload condition and hence a possible source of heat and fire. This may have been the cause of the fire but due to the extent of the subsequent damage that cannot be verified.

4.4 The modifications carried out by the replacement and relocation of the start isolator switches on several Linssen 35s in the Carrickcraft fleet, raises the question of the validity of the declaration of conformity required by the Marine Recreational Craft Directive 2103/53/EU, as stated in paragraph 2.10.4, stating that *Conductors that are not sheathed shall be supported throughout their length in conduits, cable trunking, or trays, or by individual supports at maximum intervals of 300 mm*. The insulated wires (conductors) used on the switches was unsupported and in contact with the steel hull.

4.5 The fire eventually burned through at least one of several PVC inlets or overboard pipes discussed in paragraph 2.14, allowing water to flow into the hull and the vessel sank. This is by no means a fault on the vessel, as the use of flexible pipes for the stated purpose is normal practice. This is stated here to indicate to the reader the reason the vessel sank following such an extensive fire.

5. CONCLUSIONS

5.1 Charter vessels are not considered passenger vessels and therefore are not subject to the requirements of the Merchant Shipping Act 1992. Instead, charter vessels come under the legislative requirements and recommendations detailed in the CoP. The CoP does not provide for the mandatory fitting of fire detection systems on recreational craft and hence there was no fire detection system fitted to the Carrickcraft vessel *"X4"*. If this fire had started while any of the party were asleep then the consequences could have been more serious.

5.2 The fire started as a result of one of a number of potential electrical issues onboard this Linssen Grand Sturdy 35.0 AC. The extent of the fire means that the exact component at fault will never be definitely determined.

6. SAFETY RECOMMENDATIONS

6.1 Carrickcraft should employ the services of an independent qualified marine electrician to inspect the remaining Linssen 35 vessels in their fleet to ascertain the quality of the modifications carried out and to secure the conductors to the supports and to inspect the damaged timer relay where there is evidence of burning.

6.2 The Minister for Transport should consider making regulations to govern the safe use of recreational craft being used for commercial purposes, which should include mandatory fire detection on vessels used for charter purposes.

6.3 The Minister for Transport should consider issuing a Marine Notice about the potential risks of electrical issues with similar craft.

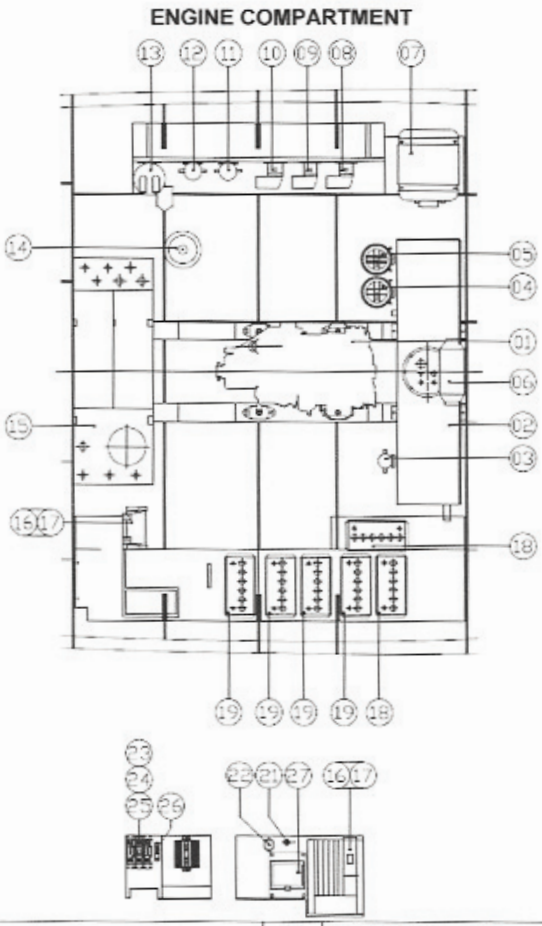
6.4 The Minister for Transport should send a copy of this report to the manufacturer, Linssen Yachts BV.

7. APPENDICES

Appendix 7.1 Linssen Grand Sturdy 35.0

Appendix 7.2 Linssen Grand Sturdy 35.0 Layout

Appendix 7.3 Engine Compartment Layout



01	Engine	14	Waterlock engine
02	Fueltank	15	blackwater tank
03	Fuel filter engine	16	Battery charger
04	Cooling water filter engine	17	Combi. Battery charger / inverter
05	Filter deckwash pump	18	Starting battery
06	Hot air heating system	19	Main battery
07	Boiler	21	Switch startnet
08	Pump washbasin forecabin	22	Main fuse
09	Pump shower forecabin	23	Fuse bow thruster
10	Pump washbasin aftercabin	24	Fuse stern thruster
11	Pump portable water	25	Fuse combi. Battery charger / inverter
12	Deckwash pump	26	Fuse slave charge combi / fuse charger
13	Pump blackwater tank	27	Fuse box 230Volt

Appendix 7.4 After Starboard Corner of Engine Compartment
(Image Taken of Sister Vessel)

Appendix 7.5 *"X4"* Induction Checklist

carrickcraft

Confirmation Number	Boat Number
2065	X4

[redacted]

Date 05-Sep-20

Starting from Carrick-on-Shannon on the 05-Sep-20

Finishing at Carrick-on-Shannon on the 12-Sep-20

Boat Type Linssen 35.0

Ireland

Excess Waiver ☑

Arrival Time 16:10 Instruction Time Boarding Time

Welcome to Carrickcraft

We hope that you will have a pleasant and enjoyable holiday. To ensure that you are aware of all conditions attached to hiring a cruiser, please read the Carrickcraft Conditions of Hire carefully.
You will be asked to declare your satisfaction with the boat and its presentation by signing the acceptance form. If there is anything which is not to your satisfaction, please inform the Marina Office immediately.

PLEASE CHECK YOUR CRUISER AGAINST THIS FORM AND RETURN IT TO THE OFFICE. YOU WILL THEN BE GIVEN A DEMONSTRATION IN BOAT HANDLING.

Undertaking for cruiser X4

I confirm that the cruiser is in a clean and satisfactory condition and with inventory. I undertake to return it in a similar condition or pay a cleaning charge. I have read the navigation instructions and I am familiar with the marking system used on the Shannon and Erne and the operation of the locks and opening bridges.

I understand that if I run the cruiser aground off navigation, there is a €150 recovery charge in addition to any charge for damage to the boat. It is mandatory for a company representative to attend all groundings to determine the condition of the boat. It is strictly forbidden to seek assistance from a third party or to refloat the boat unaided.

I certify on behalf of all people included in this booking that we have read the Conditions of Hire and that this booking is made subject to these conditions. I understand that any charges for damage to the cruiser, cleaning charges, fuel used or any other service charges for which I am responsible may be taken from my deposit/insurance excess, whether left in cash, credit card or other means.

I have paid the Waiver charge and I understand that my Maximum Liability for loss or damage is € 100.

[redacted]

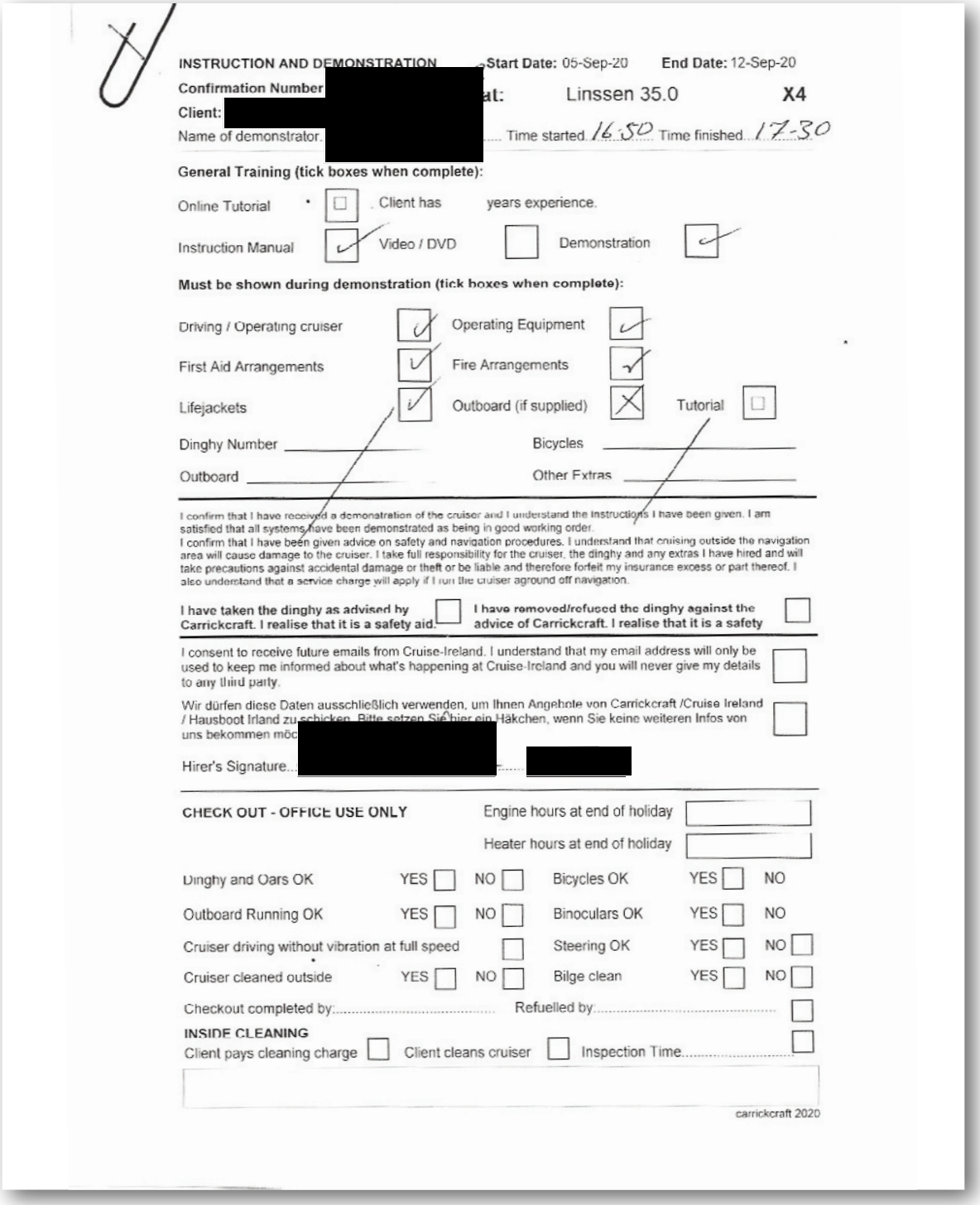
Credit Card Holder Address (if not Captain above):

Binoculars ☐ Charts ☐ Buoyancy Aids 4 [redacted]

Notes

Shannon Leisure Development Company Limited
Registered Office: The Marina, Carrick-on-Shannon, Co. Leitrim, Ireland. VAT Number IE9F4866P

Appendix 7.5 *"X4"* Induction Checklist



INSTRUCTION AND DEMONSTRATION **Start Date:** 05-Sep-20 **End Date:** 12-Sep-20

Confirmation Number [redacted] **at:** Linssen 35.0 **X4**

Client: [redacted]

Name of demonstrator [redacted] Time started 16.50 Time finished 17-30

General Training (tick boxes when complete):

Online Tutorial ☐ Client has years experience.

Instruction Manual ☑ Video / DVD ☐ Demonstration ☑

Must be shown during demonstration (tick boxes when complete):

Driving / Operating cruiser	☑	Operating Equipment	☑
First Aid Arrangements	☑	Fire Arrangements	☑
Lifejackets	☑	Outboard (if supplied)	☒
Tutorial	☐		

Dinghy Number _____ Bicycles _____

Outboard _____ Other Extras _____

I confirm that I have received a demonstration of the cruiser and I understand the instructions I have been given. I am satisfied that all systems have been demonstrated as being in good working order.
I confirm that I have been given advice on safety and navigation procedures. I understand that cruising outside the navigation area will cause damage to the cruiser. I take full responsibility for the cruiser, the dinghy and any extras I have hired and will take precautions against accidental damage or theft or be liable and therefore forfeit my insurance excess or part thereof. I also understand that a service charge will apply if I run the cruiser aground off navigation.

I have taken the dinghy as advised by Carrickcraft. I realise that it is a safety aid. ☐ **I have removed/refused the dinghy against the advice of Carrickcraft. I realise that it is a safety** ☐

I consent to receive future emails from Cruise-Ireland. I understand that my email address will only be used to keep me informed about what's happening at Cruise-Ireland and you will never give my details to any third party. ☐

Wir dürfen diese Daten ausschließlich verwenden, um Ihnen Angebote von Carrickcraft /Cruise Ireland / Hausboot Irland zu schicken. Bitte setzen Sie hier ein Häkchen, wenn Sie keine weiteren Infos von uns bekommen möc ☐

Hirer's Signature [redacted]

CHECK OUT - OFFICE USE ONLY

Engine hours at end of holiday _____

Heater hours at end of holiday _____

Dinghy and Oars OK	YES ☐	NO ☐	Bicycles OK	YES ☐	NO
Outboard Running OK	YES ☐	NO ☐	Binoculars OK	YES ☐	NO
Cruiser driving without vibration at full speed	☐		Steering OK	YES ☐	NO ☐
Cruiser cleaned outside	YES ☐	NO ☐	Bilge clean	YES ☐	NO ☐

Checkout completed by:..... Refuelled by:..... ☐

INSIDE CLEANING

Client pays cleaning charge ☐ Client cleans cruiser ☐ Inspection Time..... ☐

carrickcraft 2020

Appendix 7.5 *"X4"* Induction Checklist

Leave on Board

Carrick craft	Boat Number:	X4	Jetty:	1
Date Hiring Ended				
Refueled by	[redacted]			
Pumped out				
Checked out by				
Engine Hours	1684.9.			
Heater hours				
ENGINEERING CHECKS				
Date	5/9/20			
Engine Hours	1695.1			
Heater hours	/			
Oils	/			
Reported faults	TOILET BLOCKED ✓ AFT PK			
Fill tank check hose				
Signed				
BOATBUILDING CHECKS				
Date	5/9/20			
Reported faults				
First Aid Kit	/			
Distress Flag	/			
Fire Blanket	/			
Life Ring	/			
Fire Extinguisher	/			
Brush	✓			
Boat Hook	[redacted]			
Signed				
EXTERIOR CLEANING				
Date				
Extras Put On	[redacted]			
Cleaned By				
Signed				
HOUSEKEEPING				
Date	5-09-2020			
N. Of Lifejackets	2			
Sets Of Linen	2			
Inventory Complete	✓			
Cleaned by	[redacted]			
Checked by				

glass top missing from section.

Appendix 7.6 Start Isolator Switch

Appendix 7.7 *"X4"* Maintenance Records

Boat History for: X4

1078	[redacted]	From:	03/07/2020	to:	07/07/2020	Carr-Carr
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,442	End:	1,468			
1479	[redacted]	From:	10/07/2020	to:	13/07/2020	
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,468	End:	1,483			
1275	[redacted]	From:	13/07/2020	to:	17/07/2020	
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,438	End:	1,501			
1294	[redacted]	From:	20/07/2020	to:	25/07/2020	with 1295, 1296
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,501	End:	1,512			
761	[redacted]	From:	25/07/2020	to:	01/08/2020	Extra towels
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,512	End:	1,551			
1744	[redacted]	From:	01/08/2020	to:	05/08/2020	FIT WIRE TO DIODE SPLITTER (SQ)
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,551	End:	1,565			
1746	[redacted]	From:	05/08/2020	to:	08/08/2020	
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,565	End:	1,579			
1598	[redacted]	From:	08/08/2020	to:	15/08/2020	
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:		End:				
1429	[redacted]	From:	15/08/2020	to:	22/08/2020	C-B confirmed 6/8
From:	Carrick-on-Shannon	to:	Banagher			
Engine Hours Start:	1,601	End:	1,622			
1780	[redacted]	From:	22/08/2020	to:	29/08/2020	
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,622	End:	1,658			
982	[redacted]	From:	29/08/2020	to:	05/09/2020	
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:	1,658	End:	1,685			
2065	[redacted]	From:	05/09/2020	to:	12/09/2020	
From:	Carrick-on-Shannon	to:	Carrick-on-Shannon			
Engine Hours Start:		End:				

Appendix 7.7 *"X4"* Maintenance Records

All Maintenance List for Boat X4

Date	09-Jan-17	Remove old IBRA stickers if in poor condition	Fixed?	✔	
Urgent?			Fixed Date		
Engine Hours			Fixed By		
Date	31-Jan-17	Check delta plate / skeg / prop shaft	Fixed?	✔	
Urgent?			Fixed Date		
Engine Hours			Fixed By		
Date	10-Oct-17	Change oil and filter	Fixed?	✔	
Urgent?			Fixed Date		12-Nov-19
Engine Hours			Fixed By		
Date	20-Oct-17	Check antifreeze gravity	Fixed?	✔	
Urgent?			Fixed Date		12-Nov-19
Engine Hours			Fixed By		
Date	12-Nov-19	Check propeller for damage and sizing	Fixed?	✔	
Urgent?			Fixed Date		21-Nov-19
Engine Hours			Fixed By		[redacted]
Date	11-Nov-19	Check rudder and sterngear	Fixed?	✔	
Urgent?			Fixed Date		10-Jun-20
Engine Hours			Fixed By		[redacted]
Date	20-Oct-17	Replace fuel filters....record if very dirty	Fixed?	✔	
Urgent?			Fixed Date		12-Nov-19
Engine Hours			Fixed By		
Date	20-Oct-17	Toilet pump out deck fitting to be moved	Fixed?	✔	
Urgent?			Fixed Date		
Engine Hours			Fixed By		
Date	19-Oct-17	Fit No Smoking plaque	Fixed?	✔	
Urgent?			Fixed Date		15-Jun-20
Engine Hours			Fixed By		[redacted]
Date	20-Oct-17	Eye in galley for igniter?	Fixed?	✔	
Urgent?			Fixed Date		12-Nov-19
Engine Hours			Fixed By		
Date	20-Oct-17	Remove redundant lever valves and replace with end caps	Fixed?		
Urgent?			Fixed Date		
Engine Hours			Fixed By		
Date	20-Nov-17	Wash out bilge	Fixed?	✔	
Urgent?			Fixed Date		12-Nov-19
Engine Hours			Fixed By		

Appendix 7.7 *"X4"* Maintenance Records

Date	13-Jul-18	In Shannonbridge no power to dash so couldn't stop engine 11/7/18 20:00 . Noel attended and could find no fuse gone or trip down but there was no power on the starting side of the stm . Put a temp bridge from bowthruster stm to give	Fixed?	✓
Urgent?	✓		Fixed Date	12-Nov-19
Engine Hours			Fixed By	
Date	02-Oct-18	Engine oil and filter change, before winter lay up 623 hrs for 2018 season	Fixed?	✓
Urgent?			Fixed Date	26-Apr-19
Engine Hours	908		Fixed By	[redacted]
Date	02-Oct-18	Pre winter lay up - engine oil and filter change.	Fixed?	✓
Urgent?			Fixed Date	12-Nov-19
Engine Hours			Fixed By	
Date	02-Oct-18	Pre winter lay up - change diesel filters and check diesel tank for water contamination	Fixed?	✓
Urgent?			Fixed Date	12-Nov-19
Engine Hours			Fixed By	
Date	02-Oct-18	Check propellor and prop shaft when boat lifted. Note size of prop on boat record.	Fixed?	✓
Urgent?			Fixed Date	12-Nov-19
Engine Hours			Fixed By	
Date	19-Oct-18	fit new delta plates plus skeg plus stern tube protector also new stern tube plus seal prop end.	Fixed?	✓
Urgent?			Fixed Date	25-Apr-19
Engine Hours	908		Fixed By	[redacted]
Date	12-Nov-18	Fit new delta plate and stern tube protector	Fixed?	✓
Urgent?			Fixed Date	10-Jun-20
Engine Hours			Fixed By	[redacted]
Date	26-Apr-19	new gas regulator and gas pipe fitted.	Fixed?	✓
Urgent?			Fixed Date	26-Apr-19
Engine Hours	908		Fixed By	[redacted]
Date	07-Oct-19	fitted turbo oil pipe	Fixed?	✓
Urgent?			Fixed Date	05-Oct-19
Engine Hours			Fixed By	[redacted]
Date	27-Oct-19	Change engine Oil and filter BEFORE winter lay up of boat	Fixed?	✓
Urgent?			Fixed Date	10-Jun-20
Engine Hours			Fixed By	[redacted]
Date	30-Oct-19	Remove all of the Ireland's Mystical Waterway / Ireland's Ancient East stickers	Fixed?	✓
Urgent?			Fixed Date	15-Jun-20
Engine Hours			Fixed By	[redacted]
Date	11-Nov-19	remove anchor and place in flybridge locker	Fixed?	✓
Urgent?			Fixed Date	15-Jun-20
Engine Hours			Fixed By	[redacted]

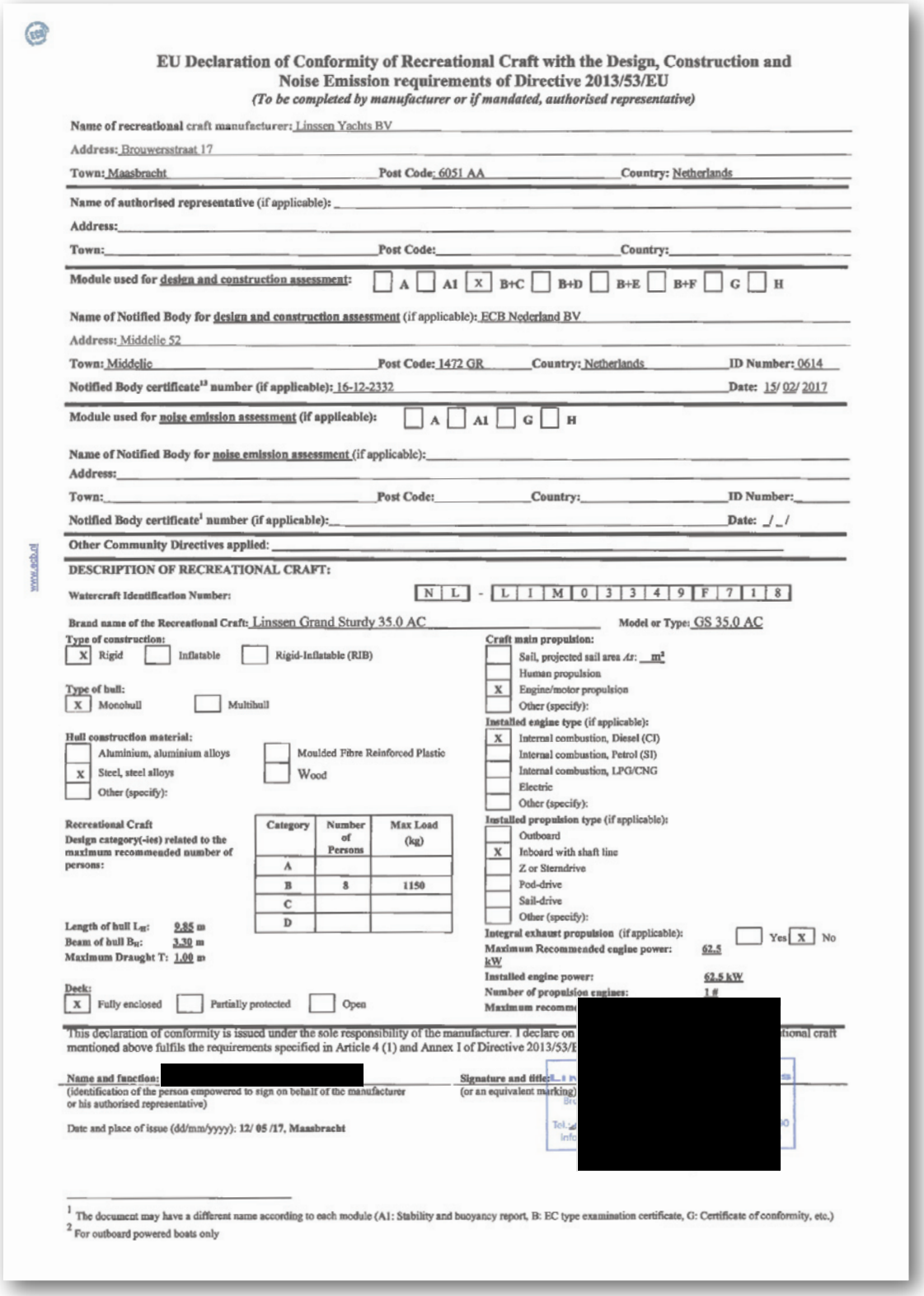
Appendix 7.7 *"X4"* Maintenance Records

Date	11-Nov-19	new morse stickers	Fixed?	✔
Urgent?			Fixed Date	15-Jun-20
Engine Hours			Fixed By	[redacted]
Date	11-Nov-19	fit 220 volt socket to rear cabin	Fixed?	✔
Urgent?			Fixed Date	14-Jun-20
Engine Hours			Fixed By	[redacted]
Date	11-Nov-19	check condition of helm seats ps only one on board it is ok	Fixed?	✔
Urgent?			Fixed Date	05-Jul-20
Engine Hours			Fixed By	[redacted]
Date	27-Nov-19	start main switch fitted	Fixed?	✔
Urgent?			Fixed Date	27-Nov-19
Engine Hours			Fixed By	[redacted]
Date	01-Dec-19	Change impellor before start of season	Fixed?	✔
Urgent?			Fixed Date	15-Jun-20
Engine Hours			Fixed By	[redacted]
Date	11-Jun-20	Fit new prop	Fixed?	✔
Urgent?			Fixed Date	11-Jun-20
Engine Hours			Fixed By	[redacted]
Date	11-Jun-20	Removed bung from aft bilge to let water into main bilge	Fixed?	✔
Urgent?			Fixed Date	11-Jun-20
Engine Hours			Fixed By	[redacted]
Date	14-Jun-20	Remove bung in aft bedroom to allow bilge water to flow into main bilge	Fixed?	✔
Urgent?			Fixed Date	14-Jun-20
Engine Hours			Fixed By	[redacted]
Date	15-Jun-20	Re wire bilge pump so it works automatically and removed wire from bilge alarm	Fixed?	✔
Urgent?			Fixed Date	15-Jun-20
Engine Hours			Fixed By	[redacted]
Date	15-Jun-20	Only one helm chair on board 2 nd one put on	Fixed?	✔
Urgent?			Fixed Date	29-Jun-20
Engine Hours			Fixed By	[redacted]
Date	15-Jun-20	Fit square D socket for heater diagnostics	Fixed?	✔
Urgent?			Fixed Date	16-Jun-20
Engine Hours			Fixed By	[redacted]
Date	05-Jul-20	Date on hose is	Fixed?	
Urgent?			Fixed Date	
Engine Hours			Fixed By	

Appendix 7.7 *"X4"* Maintenance Records

Date	04-Aug-20	FIT WIRE TO DIODE SPLITTER	Fixed? ☐
Urgent?	✔		Fixed Date
Engine Hours			Fixed [redacted]
Date	09-Oct-20	Change fuel filters, engine Oil and filter BEFORE winter lay up of boat	Fixed? ☐
Urgent?	☐		Fixed Date
Engine Hours			Fixed By
Date	17-Oct-20		Fixed? ☐
Urgent?	☐		Fixed Date
Engine Hours			Fixed By
Date	05-Nov-20	Please check that the both the lower and in particular the upper helm alarm buzzer, for oil pressure and high temperature, is working. Please ensure the warning alarm buzzer can be heard whilst boat is under way i.e. can be	Fixed? ☐
Urgent?	☐		Fixed Date
Engine Hours			Fixed By

Appendix 7.8 Declaration of Conformity



EU Declaration of Conformity of Recreational Craft with the Design, Construction and Noise Emission requirements of Directive 2013/53/EU

(To be completed by manufacturer or if mandated, authorised representative)

Name of recreational craft manufacturer: Linssen Yachts BV

Address: Brouwersstraat 17

Town: Maasbracht Post Code: 6051 AA Country: Netherlands

Name of authorised representative (if applicable):

Address:

Town: Post Code: Country:

Module used for design and construction assessment: [ ] A [ ] A1 [X] B+C [ ] B+D [ ] B+E [ ] B+F [ ] G [ ] H

Name of Notified Body for design and construction assessment (if applicable): ECB Nederland BV

Address: Middelie 52

Town: Middelie Post Code: 1472 GR Country: Netherlands ID Number: 0614

Notified Body certificate[1] number (if applicable): 16-12-2332 Date: 15/ 02/ 2017

Module used for noise emission assessment (if applicable): [ ] A [ ] A1 [ ] G [ ] H

Name of Notified Body for noise emission assessment (if applicable):

Address:

Town: Post Code: Country: ID Number:

Notified Body certificate[1] number (if applicable): Date: _/ _/

Other Community Directives applied:

DESCRIPTION OF RECREATIONAL CRAFT:

Watercraft Identification Number: NL - LIM03349F718

Brand name of the Recreational Craft: Linssen Grand Sturdy 35.0 AC Model or Type: GS 35.0 AC

Type of construction: [X] Rigid [ ] Inflatable [ ] Rigid-Inflatable (RIB)

Type of hull: [X] Monohull [ ] Multihull

Hull construction material:
[ ] Aluminium, aluminium alloys
[X] Steel, steel alloys
[ ] Other (specify):
[ ] Moulded Fibre Reinforced Plastic
[ ] Wood

Recreational Craft Design category(-ies) related to the maximum recommended number of persons:

Category	Number of Persons	Max Load (kg)
A		
B	8	1150
C		
D		

Length of hull L_H: 9.85 m
Beam of hull B_H: 3.30 m
Maximum Draught T: 1.00 m

Deck: [X] Fully enclosed [ ] Partially protected [ ] Open

Craft main propulsion:
[ ] Sail, projected sail area As: m²
[ ] Human propulsion
[X] Engine/motor propulsion
[ ] Other (specify):

Installed engine type (if applicable):
[X] Internal combustion, Diesel (CI)
[ ] Internal combustion, Petrol (SI)
[ ] Internal combustion, LPG/CNG
[ ] Electric
[ ] Other (specify):

Installed propulsion type (if applicable):
[ ] Outboard
[X] Inboard with shaft line
[ ] Z or Sterndrive
[ ] Pod-drive
[ ] Sail-drive
[ ] Other (specify):

Integral exhaust propulsion (if applicable): [ ] Yes [X] No

Maximum Recommended engine power: 62.5 kW

Installed engine power: 62.5 kW

Number of propulsion engines: 1 #

Maximum recomm[redacted]

This declaration of conformity is issued under the sole responsibility of the manufacturer. I declare on [redacted] tional craft mentioned above fulfils the requirements specified in Article 4 (1) and Annex I of Directive 2013/53/E

Name and function: [redacted]
(identification of the person empowered to sign on behalf of the manufacturer or his authorised representative)

Signature and title[redacted]
(or an equivalent marking)

Date and place of issue (dd/mm/yyyy): 12/ 05 /17, Maasbracht

[1] The document may have a different name according to each module (A1: Stability and buoyancy report, B: EC type examination certificate, G: Certificate of conformity, etc.)

[2] For outboard powered boats only

Appendix 7.8 Declaration of Conformity

Essential requirements (reference to relevant articles in Annex IA & IC of the Directive)	Harmonised standards Full Application	Harmonised standards Partial application, see tech. file	Other reference documents [15] Full Application	Other reference documents Partial Application , see tech. file	Other proof of conformity See technical. file	Specify the harmonised [16] standards or other reference documents used (with year of publication like "EN ISO 8666:2002")
	Tick only one box per line					All lines right of ticked boxes must be filled in
General requirements (2)						
Principal data – main dimensions	X					EN ISO 8666:2002
Watercraft Identification Number – WIN (2.1)	X					EN ISO 10087:2006
Watercraft Builder's Plate (2.2)	X					EN ISO 14945:2004
Protection from falling overboard and means of reboarding (2.3)	X					EN ISO 15085:2003
Visibility from the main steering position (2.4)	X					EN ISO 11591:2011
Owner's manual (2.5)	X					EN ISO 10240:2004
Integrity and structural requirements (3)						
Structure (3.1)	X					EN ISO 12215-5:2008 / A1:2014
Stability and freeboard (3.2)	X					EN ISO 12217:2015
Buoyancy and flotation (3.3)	X					EN ISO 12217:2015
Openings in hull, deck and superstructure (3.4)	X					EN ISO 12216:2002 / 9093:1997/2002
Flooding (3.5)	X					EN ISO 11812:2001 / 15083 / 12217
Manufacturer's maximum recommended load (3.6)	X					EN ISO 14946:2001 / AC:2005
Liferaft stowage (3.7)						
Escape (3.8)	X					EN ISO 9094:2002
Anchoring, mooring and towing (3.9)	X					EN ISO 15084:2003
Handling characteristics (4)	X					EN ISO 11592:2016 / 8665:2006
Engines and engine spaces (5.1)						
Inboard engine (5.1.1)	X					EN ISO 9094:2002 / 28846:1993
Ventilation (5.1.2)	X					EN ISO 12217:2015
Exposed parts (5.1.3)					X	
Outboard engine starting (5.1.4)						n/a
Fuel system (5.2)						
General – fuel system (5.2.1)	X					EN ISO 7840:2013 / 10088:2013
Fuel tanks (5.2.2)	X					EN ISO 21487:2012 / A1:2015
Electrical systems (5.3)	X					EN ISO 10133:2012 / 13297:2014
Steering systems (5.4)						
General – steering system (5.4.1)	X					EN ISO 10592: 1995 / A1:2000
Emergency arrangements (5.4.2)					X	
Gas systems (5.5)	X					EN ISO 10239:2014
Fire protection (5.6)						
General – fire protection (5.6.1)	X					EN ISO 9094:2002
Fire-fighting equipment (5.6.2)	X					EN ISO 9094:2002
Navigation lights, shapes and sound signals (5.7)	X					EN ISO 16180:2013 ColRegs / Cevni
Discharge prevention (5.8)	X					EN ISO 8099:2000
Annex I.B – Exhaust Emissions [17]						
Annex I.C – Noise Emissions [18]						
Noise emissions level (I.C.1)						See DoC engine manufacturer
Owner's manual (I.C.2)	X					EN ISON 14509:2008

[3] Such as non-harmonised standards, rules, regulations, guidelines, etc.
[4] Standards published in EU Official Journal
[5] See Declaration of Conformity of engine manufacturer
[6] Only to be completed for boats with inboard engines or sterndrive engines without integral exhaust

Appendix 7.8 Declaration of Conformity

EN A

nannidiesel
energy in blue

Declaration of Conformity for Recreational Craft Propulsion Engines with the requirements of Directive 94/25/EC as amended by 2003/44/EC and Electromagnetic Compatability (EMC) Directive 89/336/EEC

Name of engine manufacturer: NANNI INDUSTRIES

Adress1: 11, avenue Mariotte Adress2: ZI BP107

City: La Teste de Buch Post code: 33260 Country: FRANCE

Name of Notified Body for exhaust emission assessment (if required): LUXCONTROL

Adress1: 1, avenue des Terres Rouges Adress2: BP349

City: Esch-sur-Alzette Post code: 4004 Country: LUXEMBOURG ID number: 0882

Module used for exhaust emission assessment: ☒ B+C ☐ B+D ☐ B+E ☐ B+F ☐ G ☐ H
or engine type-approved according to: ☐ stage IIIa of Directive 97/68/EC ☐ Directive 88/77/EC
Other Community Directives applied:

DESCRIPTION OF ENGINE(S)

Engine Type:		Fuel Type:		Combustion cycle:	
☐	Z or sterndrive without integral exhaust	☒	Diesel	☐	2 stroke
☒	Inboard engine	☐	Petrol	☒	4 stroke

ENGINE(S) COVERED BY THIS DECLARATION

Engine model(s)	EC Type certificate number (exhaust)	Engine model(s)	EC Type certificate number (exhaust)
2.45	LC*2003/44*00001*01	4.380 TDI	LC*2003/44*00004*00
2.50	LC*2003/44*00001*01	4.390 TDI	LC*2003/44*00004*00
3.75	LC*2003/44*00001*01	T6 280	LC*2003/44*00005*00
N2.08	LC*2003/44*00001*01	T6 300	LC*2003/44*00005*00
N2.10	LC*2003/44*00001*01	6.420 TDI	LC*2003/44*00005*00
N2.14	LC*2003/44*00001*01	N4.115	LC*2003/44*00006*00
N3.21	LC*2003/44*00001*01	N4.60	LC*2003/44*00002*00
4.199 TD	LC*2003/44*00002*00	N4.40.HD	LC*2003/44*00002*00
4.200 TD	LC*2003/44*00002*00	T4.165	LC*2003/44*00022*00
5.250 TDI	LC*2003/44*00002*00	T4.180	LC*2003/44*00022*00
4.330 TDI	LC*2003/44*00003*00	T4.200	LC*2003/44*00022*00
4.340 TDI	LC*2003/44*00003*00	N4.85	LC*2003/44*00023*00
T4 155	LC*2003/44*00004*00	N4.100	LC*2003/44*00024*00

STANDARD USED

Standard used	Essential requirements	Description
EN ISO 8178-1:1996	Exhaust emission	Test cycle
EN ISO 8665-A1:2000	User manual	Power declaration
EN ISO 16417	Fire prevention	Fuel system and electrical elements fitted on the engine

This declaration of conformity is issued under the sole responsibility of the manufacturer. I declare on behalf of the engine manufacturer that the engine(s) will meet the requirements of above mentioned directives when installed in a recreational craft, in accordance with the engine manufacturer's supplied instructions and that this (these) engine(s) must not be put into service until the recreational craft into which it is (they are) to be installed has been declared in conformity with the relevant provisions of the above mentioned Directives.

Name and function: [redacted] General Manager
(identification of the person empowered to sign on behalf of the engine manufacturer or his authorised representative)

Signature: [redacted]

Date: (Year/month/day) 2005/12/21
Place: La Teste de Buch

Indice - 1 Date: 2008/4/16

Appendix 7.8 Declaration of Conformity

EU-TYPE-EXAMINIATION CERTIFICATE

CERTIFICATE NUMBER –16-12-2332-

European Certification Bureau Nederland BV, Notified Body 0614, declares that the product type as described below and specified in Annex I

Product name	**Grand Sturdy 35.0 AC/Sedan**
Product description	Steel hard chine motor yacht
Manufacturers name	**Linssen Yachts**
Manufacturers address	Brouwersstraat 17 6051 AA Maasbracht The Netherlands

is in compliance with the essential requirements of the European Recreational Craft Directive 2013/53/EU. The product as assessed has been found to comply with the relevant parts of ISO standards and normative documents as listed in Annex II

Certification module	**B (EU type-examination)**
Design category	**C** as described in the Directive
Issue date	**December 23d 2016**
Re-issue	**February 10th 2017**, due to tank volume correction **February 15th 2017**, due to engine power modification

This certificate remains property of ECB Nederland BV and remains valid unless cancelled or revoked, provided the conditions of the certification contract remain complied with and the certified product is not modified.

CERTIFICATE

[redacted]

CE

PRODUCTEN RvA C 217

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Appendix 7.8 Declaration of Conformity

EU-TYPE-EXAMINIATION CERTIFICATE

CERTIFICATE NUMBER –16-12-2332-

Annex I

Main particulars of Certified product

			Sedan	AC	
Lh:	Length of hull (ISO 8666)	:	9.85		[m]
Bh:	Beam of hull (ISO 8666)	:	3.30		[m]
T:	Maximum draft fully loaded	:	1.00		[m]
Δ:	Displacement fully loaded	:	10265	10765	[kg]
Vs:	Maximum speed	:	7		[kn]
P:	Maximum engine power	:	62.5		[kw]
A:	Projected sail area		-		[m²]

Tank capacities

Total fuel tank capacity	:	240	[ltr]
Total fresh water tank capacity	:	220 + 120 optional	[ltr]
Total black water tank capacity	:	240	[ltr]

The Certified product has been assessed on basis of the following
Documentation as in ECB file: LIM-2981
Craft Identification Number: NL- LIM03302C617
Technical Construction File, kept by Applicant.
Final report: *161223 rapport 1 eind LIM-2981; 161209 rapport conformiteit 2013-53-EU*

Information on builders plate of Certified product

Manufacturers name, address	Linssen Yachts
CE marking:	CE
Design category:	C
Recommended maximum load:	1150 kg
Recommended number of persons	8

[redacted]

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Appendix 7.8 Declaration of Conformity

EU-TYPE-EXAMINIATION CERTIFICATE

CERTIFICATE NUMBER –16-12-2332-

Annex II

List of essential requirements (reference to relevant paragraphs of Annex 1 of the Directive)	Compliance as described in the TCF	Applied standards and normative documents
Principal Data		EN ISO 8666:2002
Annex 1A Essential requirements for design and construction		
General requirements		
Watercraft identification(2.1)		EN ISO 10087:2006
Watercraft builder's plate (2.2)		EN ISO 14945:2004
Protection from falling overboard and means of reboarding (2.3)		EN ISO 15085:2003
Visibility from the main steering position (2.4)		EN ISO 11591:2011
Owner's manual (2.5)		EN ISO 10240:2004
Integrity and structural requirements (3)		
Structure (3.1)		EN ISO 12215-5:2008/A1:2014
Stability and freeboard (3.2)		EN ISO 12217:2015
Buoyancy and flotation (3.3)		EN ISO 12217:2015
Openings in hull, deck and superstructure (3.4)		EN ISO 12216:2002/ 9093:1997/2002
Flooding (3.5)		EN ISO 11812:2001/15083/12217
Manufacturer's maximum recommended load (3.6)		EN ISO 14946:2001/AC:2005
Life raft stowage (3.7)	TCF	
Escape (3.8)		EN ISO 9094:2002
Anchoring, mooring and towing (3.9)		EN ISO 15084:2003
Handling characteristics (4)		ISO 11592:2016 /8665:2006
Installation requirements (5)		
Engines and engine compartments (5.1)		
Inboard engine (5.1.1)		ISO 9094:2002/28846:1993
Ventilation (5.1.2)		EN ISO 12217:2015
Exposed parts (5.1.3)	TCF	
Fuel system (5.2)		
General (5.2.1)		ISO 7840:2013/10088:2013
Fuel tanks (5.2.2)		EN ISO 21487:2012/A1:2015
Electrical systems (5.3)		EN ISO 10133:2012/ 13297:2014
Steering systems (5.4)		
General (5.4.1)		EN ISO 10592: 1995/A1:2000
Emergency arrangements (5.4.2)	TCF	
Gas system (5.5)		EN ISO 10239: 2014
Fire protection (5.6)		
General (5.6.1)		EN ISO 9094: 2002
Fire-fighting equipment (5.6.2)		EN ISO 9094: 2002
Navigation lights, shapes and sound signals (5.7)		EN ISO 16180:2013 ColRegs/ Cevni
Discharge prevention and installations facilitating the delivery ashore of waste (5.8)		EN ISO 8099: 2000
ANNEX IB. Essential requirements for exhaust emissions of propulsion engines	See DoC engine manufacturer	
ANNEX IC. Essential requirements for noise emissions		EN ISO 14509: 2008

[redacted]

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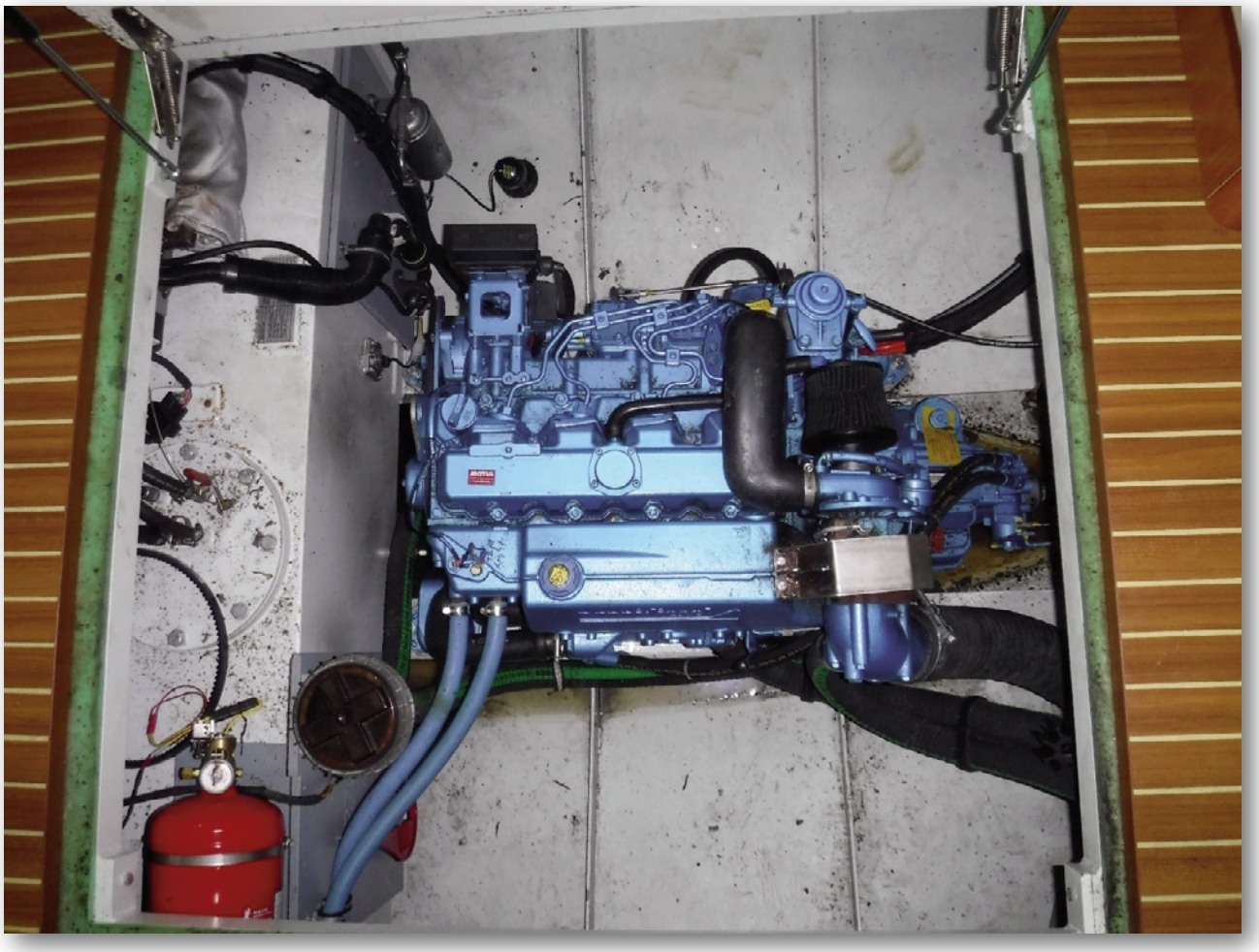
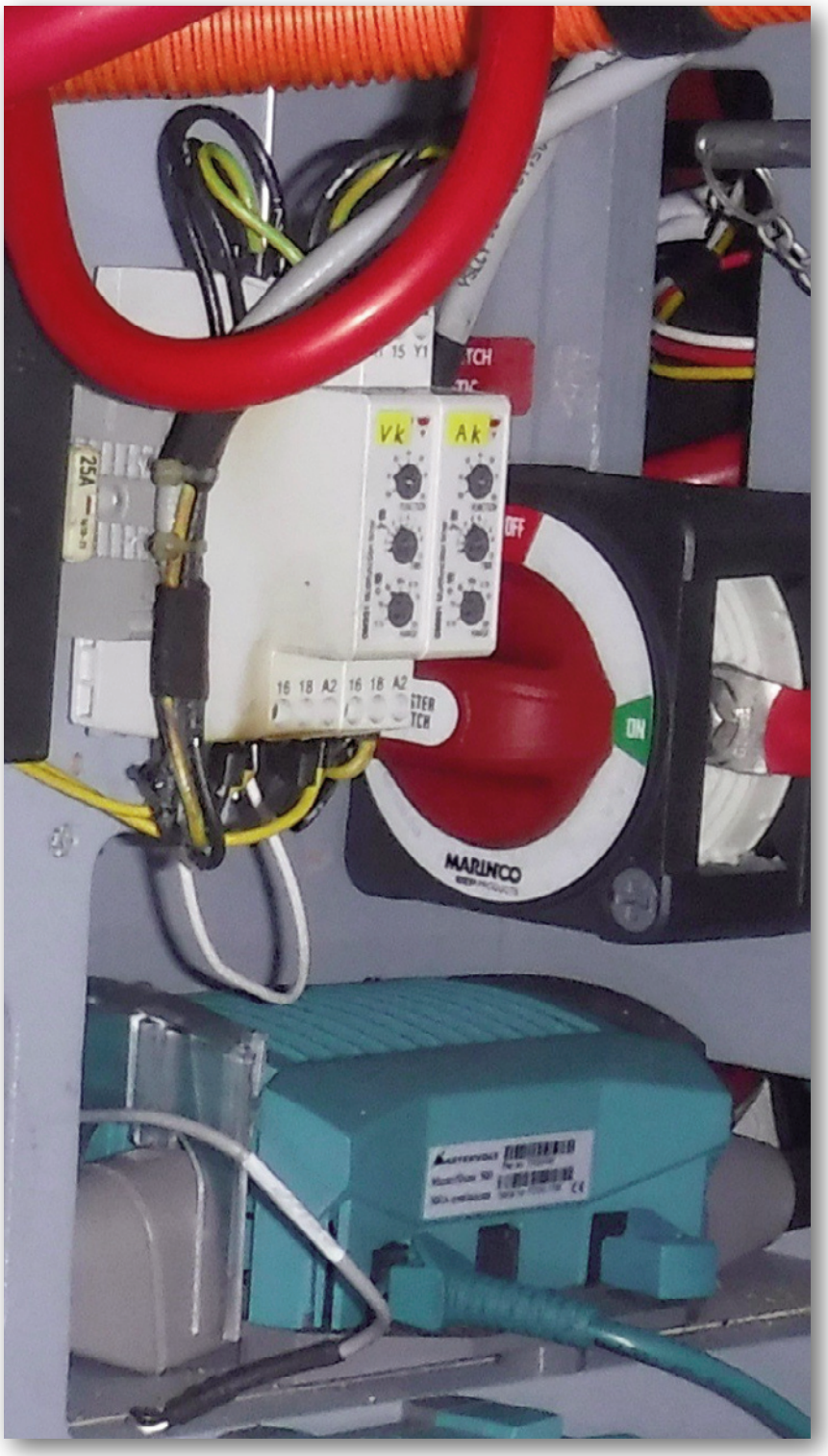
Appendix 7.9 Sister Vessel Engine Compartment



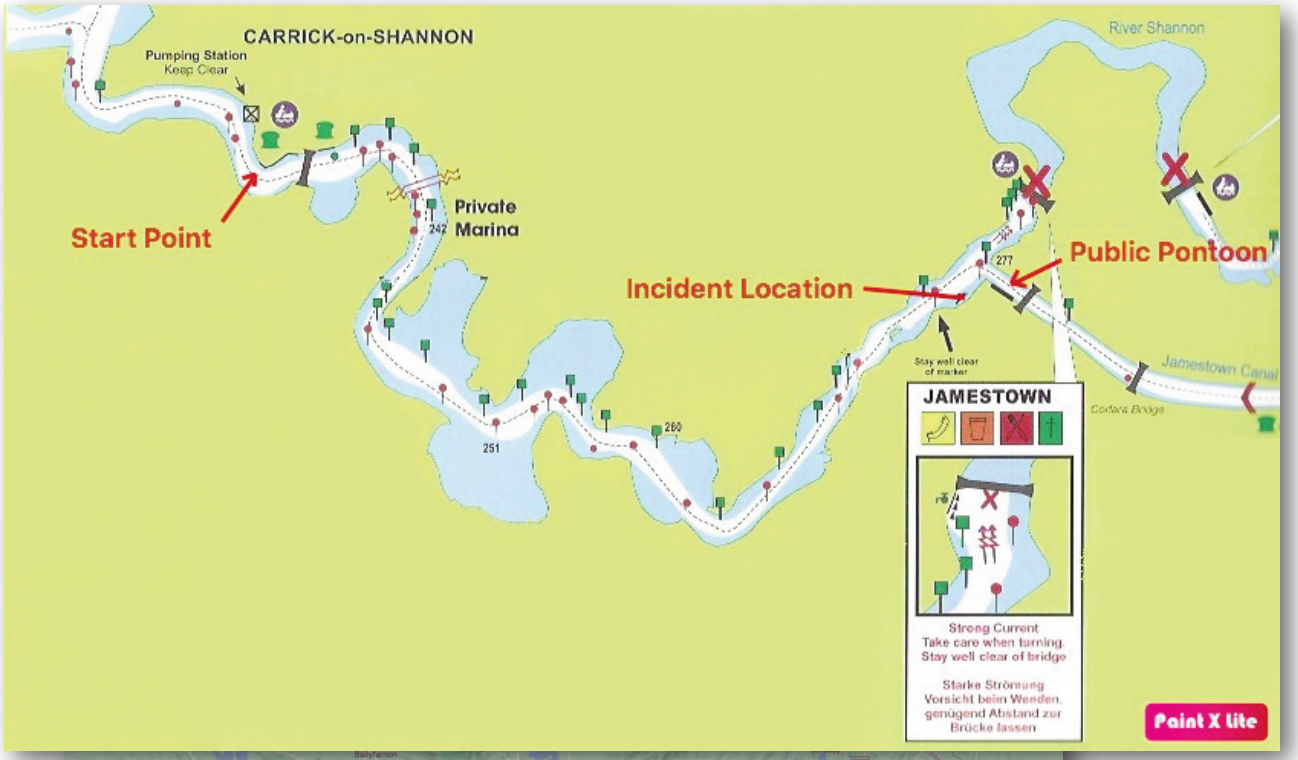
Appendix 7.10 Starboard Side Inside Engine Compartment of Sister Vessel

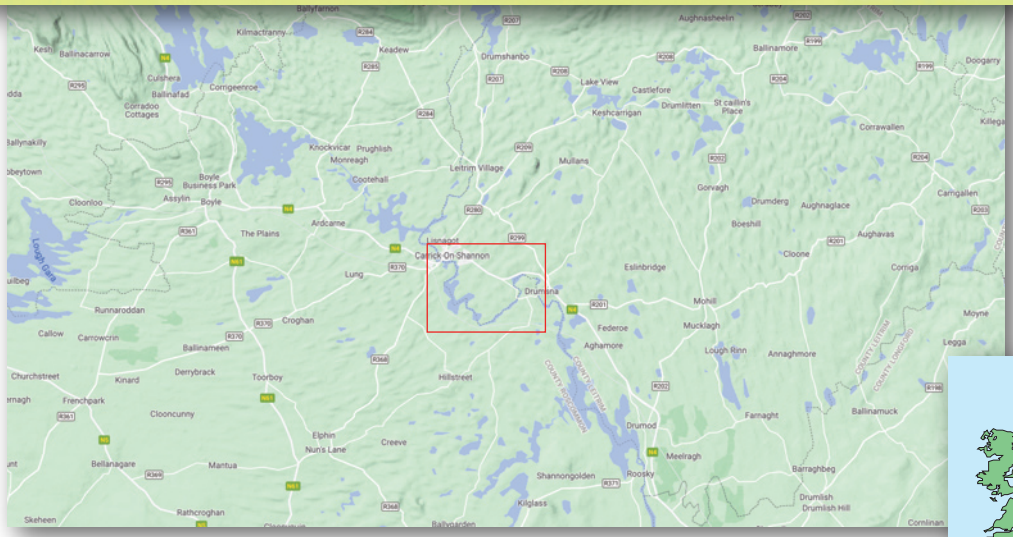
Appendix 7.11 Propeller Shaft Bearing Cooling Hose on Sister Vessel

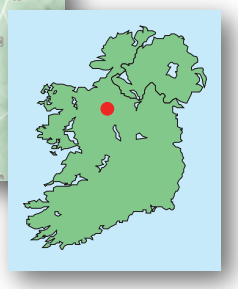
Appendix 7.12 Close Up of Isolating Switch and Timer Relay



Appendix 7.13 Chart Carrick-on-Shannon to Jamestown







Appendix 7.14 Storage Compartment

Appendix 7.15 *"X4"* on Fire Port Side Perspective

Appendix 7.16 *"X4"* on Fire Starboard Side Perspective

Appendix 7.17 *"X4"* on Fire

Appendix 7.18 Starboard Side *"X4"*

Appendix 7.19 Engine *"X4"*

Appendix 7.20 Starboard Side Inside *"X4"*

SECTION 36 PROCESS

Section 36 of the Merchant Shipping (Investigation of Marine Casualties) Act, 2000

It is a requirement under Section 36 that:

(1) Before publishing a report, the Board shall send a draft of the report or sections of the draft report to any person who, in its opinion, is likely to be adversely affected by the publishing of the report or sections or, if that person be deceased, then such person as appears to the Board best to represent that person's interest.

(2) A person to whom the Board sends a draft in accordance with subsection (1) may, within a period of 28 days commencing on the date on which the draft is sent to the person, or such further period not exceeding 28 days, as the Board in its absolute discretion thinks fit, submit to the Board in writing his or her observations on the draft.

(3) A person to whom a draft has been sent in accordance with subsection (1) may apply to the Board for an extension, in accordance with subsection (2), of the period in which to submit his or her observations on the draft.

(4) Observations submitted to the Board in accordance with subsection (2) shall be included in an appendix to the published report, unless the person submitting the observations requests in writing that the observations be not published.

(5) Where observations are submitted to the Board in accordance with subsection (2), the Board may, at its discretion -

(a) alter the draft before publication or decide not to do so, or

(b) include in the published report such comments on the observations as it thinks fit.'

The Board reviews and considers all observations received whether published or not published in the final report. When the Board considers an observation requires amendments to the report, those amendments are made. When the Board is satisfied that the report has adequately addressed the issue in the observation, then no amendment is made to the report. The Board may also make comments on observations in the report.

Response(s) received following circulation of the draft report (excluding those where the Board has agreed to a request not to publish) are included in the following section.

The Board has noted the contents of all observations, and amendments have been made to the report where required.

8. MSA 2000 – SECTION 36 OBSERVATIONS RECEIVED

Note: The names and contact details of the individual respondents have been obscured for privacy reasons.

OBSERVATION 8.1

8.1 Observation from Charterer and MCIB response

6 September 2021

CARRICKCRAFT SECTION 36 RESPONSE

Dear [redacted],

I am enclosing our observations on the report you sent us on 22nd July concerning the fire on the pleasure craft we hired from Carrickcraft on 5th September 2020. You can include our observations in your final report if you so wish.

Yours sincerely

[redacted]

MCIB RESPONSE: The MCIB notes the contents of this observation.

8.1 Observation from Charterer and MCIB response

Ref: Draft Report into the incident involving a Carrickcraft pleasure craft on the river Shannon close to Jamestown Co. Roscommon on 6th September 2020

To whom it may concern

Observations regarding the above report

Page 8

Paragraph 2.3.9 states "In this section clients are informed that a dingy is an essential safety aid and that Carrick craft requires any client not requiring one to sign a disclaimer"
Observation A dingy was never discussed and no disclaimer was signed . No dingy was supplied by Carrickcraft

Paragraph 2.4 states "The client refused the dingy against the advice of Carrickcraft "
Observation A dingy was never offered or discussed

Page 11

Paragraph 2.13

Observation No reply from emergency number. Eventually a phone was answered in Banagher and the advice was to jump off the boat

Page 12

Paragraph 2.17.2 Area of Origin and Spread of Fire

Observation We always felt that the fire originated in the area of the engine compartment and expressed that to the Manager upon his meeting with us on the day of the incident

Page 13

Paragraph 2.17.3.2 Carelessly Discarded Smokers' Materials

Observation We are all non-smokers

Page 15

Paragraph 3.3

Observation Very first sign of smoke was outside the boat and up through the floor of the kitchen area. It was coming up through the steering area also. When we were rescued by a passing boat we were well out towards the middle of the river. The burning boat did drift towards the side but there was no exact "riverbank" as such. It was an area of very dense rushes.

Paragraph 3.4

Observation (1) Please note that we all had been wearing our lifejackets from the moment we set off on our journey. (2) There was no answer from the emergency number and when eventually we did get an answer from a Banagher number the advice was to jump off.

MCIB RESPONSE: The MCIB notes the contents of this observation.

8.1 Observation from Charterer and MCIB response

Page 16

Paragraph 3.7

Observation We stayed in the hotel overnight as we were totally exhausted and XXXX our driver was too shaken and upset to drive. Also the key of the car had been burned in the boat.

Page 17

Paragraph 4.1

Observation All four of us had our lifejackets on from the moment we started our journey

Page 19

Paragraph 5.1

Observation It is our hope that the Code of Practice for the safe Operation of Recreational Craft be updated to require mandatory fitting of fire detection systems on recreational craft.

As it states in this draft ... "If this fire had started while any of the party were asleep then the consequences could have been more serious"

Yours sincerely

[redacted]

On behalf of myself, [redacted]

[redacted] and [redacted]

MCIB RESPONSE: The MCIB notes the contents of this observation.

8.2 Observation from Carrickcraft and MCIB response

[redacted]

28 July 2021 at 14:26

Re: Report into the incident involving a pleasure craft on 6 September 20... Details

To: [redacted]

Hello [redacted]

many thanks for the report which i received on Monday, an excellent report. i have only one comment as listed below

There is one minor description in section 4.3.3 where it mentions "the replacement and relocation of an extra battery isolation switch".

the original switch was replaced and the location changed, it was not an extra switch as mentioned.

many thanks

regards

[redacted]

MCIB RESPONSE: The MCIB notes the contents of this observation.

8.3 Observation from Linssen Yachts and MCIB response

[redacted] 21 September 2021 at 16:19 [redacted]

MCIB draft report - your reference MCIB/12/303 Details

To: Marine Casualty Investigation Board, Cc: [redacted]

Dear Sir/Madam,

Thank you for sharing the draft report that we received in good order.

In terms of content, we can add the following:

General
We have been producing this series of yachts since 2005.
By now, over 500 yachts of this series have been produced, both for private and charter use.
Up to now, we have not seen or experienced a similar fire incident on these yachts.

Shower Pump Timer Relay
For safety reasons, we have checked several used yachts at our shipyard, with the same type of shower pump timer relay.
There is no visible damage/previous overheating on the relays of the yachts at our shipyard, nor did we have any cases in the past.

Battery Isolating Switch
The bow and stern thruster are used much more intensively in the charter than in a privately uses yacht.
The bow and stern thruster, both 12 Volt, require a lot of current. In case of very intensive use (charter) this may lead to the wear out the main switch.
For this reason, the main switch has probably been exchanged on the boat in question.

Assuming that this contribution has helped you, we remain,

Yours sincerely,
Linssen Yachts BV
[redacted]

LINSSEN YACHTS

[redacted]
Brouwersstraat 17
NL-6051 AA Maasbracht
reception: +31 (0)475- 43 99 99
[redacted]

MCIB RESPONSE: The MCIB notes the contents of this observation.

8.4 Observation from ECB Nederland and MCIB response

[redacted]

5 August 2021 at 09:24

Details

RE: Marine Casualty Investigation Board (MCIB) Ireland- Draft Report Fire yacht "X4"

To: [redacted] Cc: [redacted]

Dear [redacted]

Thank you for sending us the MCIB report on the fire on board the Linssen 35 motor yacht "X4" and giving us the opportunity to study it and submit our comments. As you can in the CC, we send this reply with the consent of our client Linssen Yachts.

For considering possible technical improvements it is unfortunate the cause of the fire could not be established with certainty. Also based on this report there is not much we can add to the conclusion re. possible causes. We feel it however appropriate to explain our position and that of our client in this incident and ensuing investigation.

For this yacht type Grand Sturdy 35.0 AC/Sedan ECB Nederland has established in 2016 that the yachts of this type are being built according the Recreational Craft Directive (RCD) and referenced standards.

Upon delivery by the builders in 2017 the yacht "X4" has been supplied with a Declaration of Conformity (DoC), which refers to our type approval certificate. With this DoC the builder states the yacht is built according the by ECB Nederland approved type and complies with the RCD.

As you will know no periodical re-approval of recreational craft are enforced, meaning that builders nor notified bodies can take responsibility for modifications or insufficient maintenance by the user/owner, including charter or rental companies, affecting the safety of a yacht.

For a yacht three years old and with modifications carried out this implies that the builder nor notified body can comment on any possible cause of this fire. Also, as stated before, we as notified body see no indication for reviewing the design of the approved yacht type.

Trusting to have informed you sufficiently,

Kind regards,

[redacted]

ECB NEDERLAND B.V.

[redacted]

MCIB RESPONSE:
The MCIB notes the contents of this observation.

Leeson Lane, Dublin 2.
Telephone: 01-678 3485/86.
email: info@mcib.ie
www.mcib.ie