

Construction RV *Wim Wolff*



Progress report #38: March 2024

The RV *Wim Wolff* is a new shipbuilding project for the Dutch national research fleet. The fleet is owned and operated by the National Marine Facilities (NMF), a department of the Royal Netherlands Institute for Sea Research (NIOZ). The NMF fleet consists of three vessels capable of conducting research from the shallow coastal waters out into the open ocean.

The RV *Wim Wolff* is intended to replace the Wadden Sea research vessel RV *Navicula*, and with its shallow draught of 1 meter it is specifically designed for overnight voyages for research in the Wadden Sea, the Zeeland delta or the coastal zone.

With a permanent crew of four, the RV *Wim Wolff* will offer state-of-the-art facilities for a maximum of 12 passengers, and is equipped with onboard dry and wet lab facilities. The vessel also has room for two customised lab containers on the working deck.

The RV *Wim Wolff* is being built by Thecla Bodewes Shipyards (TBSY) in Harlingen, and is scheduled for delivery in the 2nd quarter of 2024.

DELIVERY

Now that the RV *Wim Wolff* has been officially christened, every effort is being focused on delivering the vessel to the NIOZ.

For the delivery, it is vital that the client (NIOZ) gets its money's worth; the NIOZ gets what it's ordered, and the shipyard delivers what it has promised.

That will be guaranteed by three layers of requirements that the vessel must meet:

- requirements stipulated by international agreements;
- additional requirements stipulated by the flag State;
- requirements stipulated in the design specifications agreed upon in the contract.

International agreements

These requirements are enforced by the International Maritime Organization (IMO). The IMO is a specialised agency of the United Nations that mediates agreements between the participating member states at the international level to make shipping as safe and environmentally friendly as possible.

The most important international treaties are:

- the International Convention for the Safety of Life at Sea (SOLAS), and;
- the International Convention for the Prevention of Pollution (MARPOL).

The IMO administers around 30 treaties pertaining to issues like safety, environment, liability and compensation, etc. Provisions from the treaties are elaborated in more detail in various codes.

Every seagoing vessel of 100 tonnes displacement or more operating in international waters must have a unique IMO number.

The Flag State

A flag State is the country where a vessel is registered. The vessel therefore carries that country's merchant ensign.

The RV *Wim Wolff* will mainly operate in Dutch coastal waters, so the vessel is registered in the Netherlands and will fly the Dutch merchant ensign.



The RV Wim Wolff underway to TSBY following the christening ceremony. The Dutch flag flying from the mast shows that the vessel is registered in the Netherlands.

That means the RV *Wim Wolff* is also required to comply with supplemental Dutch legislation, in addition to the international obligations. Much of the national legislation was based on international agreements, but there are also some specific requirements. Since the RV *Wim Wolff* will also operate in the Netherlands' inland waterways, it must comply with the rules for inland shipping that apply to these waters, including the Rhine River downstream from Lobith.

The design specifications

The detailed design specifications drawn up by the NIOZ, which the shipyard agreed to when signing the contract, offer clarity about the NIOZ' requirements regarding:

- the type of vessel;
- functionality;
- quality.

Before construction began, these specifications clearly explained the minimum requirements that the vessel must meet.

SUPERVISORY BODIES

Before and during the vessel's construction, several supervisory bodies and agencies closely monitored the progress to ensure that all of the requirements are met.

In the past, enforcement of national and international regulations was the responsibility of the Shipping Inspectorate. Over the years, the government has delegated some of these tasks to specialist classification societies, especially those pertaining to aspects of the vessel's hull, equipment and machinery. Today, the government's Human Environment and Transport Inspectorate (ILT) mainly supervises the safety of vessels, crew, operations and cargo.



Inspectie Leefomgeving en Transport
Ministerie van Infrastructuur en Waterstaat

Logo of the Human Environment and Transport Inspectorate (ILT) in The Hague.

Classification societies conduct the technical inspections of vessels to determine whether they meet the stated requirements (standards). There are several classification societies active in the Netherlands; the most important are: Lloyd's Register Group, American Bureau of Shipping (ABS), Det Norske Veritas (DNV) and Bureau Veritas (BV). Bureau Veritas is involved in the construction of the RV Wim Wolff.

Each classification society has its own regulations, which may differ in some details from the other classification societies. But every classification society must comply with the general national and international requirements.



Logo of Bureau Veritas, which supervises the construction of the RV Wim Wolff.

The client also met with the shipyard regularly during the vessel’s construction to discuss the progress of the work. For the RV Wim Wolff, the two parties originally met every two weeks, and as the vessel neared completion the meetings were held every month.

FROM INSPECTION TO CERTIFICATION

To ensure that the RV Wim Wolff eventually meets all of the requirements placed on the vessel, equipment and crew, the inspections begin even before the yard has started construction.

A large number of initial blueprints and calculations are reviewed by both the client and the supervisory bodies, and are either approved or revised and re-submitted for inspection.

Drag tests using a scale model are also conducted before construction begins to determine if the various calculations for speed, sea handling, etc. are realistic.

Finally, every meeting between the client and the yard is recorded in writing, approved and signed by both parties. These minutes also include any agreements regarding deviations and changes to the design specifications.

This process results in a thick stack of certificates, starting with certificates for the materials and components delivered (such as the aluminium for the hull, the pumps and the engines) up to the various national and international certifications for aspects such as stability.

In total, they add up to more than 100 certificates, which the shipyard archives with the addresses of the sub-contractors and suppliers, and submits to NIOZ upon completion. This file also includes the colour codes for all of the piping on board.

Fresh water	Sanitary hot water	BLUE	BROWN	BLUE
	Potable cold water	BLUE	GREEN	BLUE
	Cooling water	BLUE	VIOLET	BLUE
	Propeller shaft lubrication	BLUE	RED	BLUE
	Airconditioning - chilled water	BLUE	WHITE	BLUE
	Central heating	BLUE	BLACK	BLUE

Colour codes for the various fresh water systems on board the RV Wim Wolff.



CareShip Info
Document



Research Vessel
NIOZ
Yard Number 362
For
Royal Netherlands Institute for Sea Research

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Draught document listing the certificates and addresses of suppliers.

FROM CERTIFICATION TO DELIVERY

The last step before delivery is to test whether all of the systems function as intended, both individually and as a whole.

Several components were tested for functionality during the building process itself. The generators were tested exhaustively and certified by the supplier before they were installed on board, as part of the Factory Acceptance Test (FAT). Many of the pipes were also pressurised and tested when the hull was under construction.

The most important tests are the sea trials; the Sea Acceptance Test (SAT) with the client on board, and the final sea trial in the presence of the classification society. Following the successful sea trials, there is nothing standing in the way of the transfer of the RV Wim Wolff to the NIOZ. Following the christening ceremony, this is usually a smaller ceremony in which the shipyard's pennant is struck and replaced with the flag of the owner.

For more information, please visit: <http://www.NewResearchFleet.nl>

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