Border Force

AUTHORITY: The Secretary of State for the Home Department acting through Border Force

STATEMENT OF REQUIREMENTS

Docking of HMC Vigilant for stabiliser defect rectification.

January 2022

C22117

Requirement

1.1 Border Force have a requirement for:

1.1.1 The undertaking of a docking of HMC Vigilant (Damen 4207 Class) to gain access to the stabiliser system in-water components.

1.1.2 The two stabiliser shaft lines to be overhauled.

1.1.3 The start date for this requirement is to be no earlier than 5th January 2022.

1.1.4 The end date for this requirement is to be no later than 19th January.

Location

2.1 Due to the operational working location of the Cutter this requirement is to be undertaken inside the following geographical areas:

2.2.1 United Kingdom – Portland to Blyth.

Insurance

3.1 Any additional costs that may be incurred by the Supplier due to the undertaking of a bespoke insurance arrangement are to be included in the quote and the Authority is to be notified and then provided with the appropriate documentary proof.

3.1.1 The Supplier is to provide an in-date insurance certificate that clearly states the limit of liability to be no less than £15,000,000.00.

3.1.2 The limit of liability, as expressed in 3.1.1, is to be for each and every accident or series of accidents arising from the same event.

3.1.3 The insurance policy is to cover all employees of the Supplier, any individuals sub-contracted by the Supplier, or the Authority, in the conduct of this requirement as stated in 1.1.1.

3.1.4 The insurance certificate is to be submitted to the Authority in .pdf format alongside any bids.

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Berthing

4.1 The Supplier must be able to provide appropriately sized and secure alongside berthing, as required, during this period of works with a minimum depth of 1m below the keel at Low Water Spring Tides.

4.2 Supplier to provide costs for;

4.2.1 Daily cost of berth in accordance with 4.1; and

4.2.2 Suitable gangway access, always, and at all states of the tide.

Shore Power

5.1 The Supplier is to provide 415 volt (± 5 volts) 50 Hz 63amp, three phase shore power from grid/mains for the duration of the project as required by the Authority.

5.2 Supplier to provide costs for;

5.2.2 Connection of shore power cable;

5.2.3 Disconnection of shore power cable;

5.2.4 Provision of 5500 kWh electricity; and

5.2.5 Unit cost per kWh.

Docking

6.1 The Cutter is to be Slipped, Dry-docked or Synchro-lifted on an Authority approved facility belonging to or leased by the Supplier. The Supplier is notify the Authority of how they intend to remove the Cutter from the water and provide all technical specifications of their chosen method of removal.

6.2 All costs for docking (including cleaning pre, post docking and dock maintenance as required) , hire of dock, slipway or lift, towage from and to the alongside berth to the dock, slipway or lift are to be included in the Suppliers' bid for the duration of the contract.

6.3 The underwater area is to be pressure washed off with fresh water to remove all slime and marine growth.

6.4 On approval of the Border Force Overseeing Officer (BFOO), the Cutter is to be re-launched and moved to the alongside working berth.

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Stabiliser shaft line overhaul

7.1 Stabiliser spare parts are Border Force supply

7.2 These tasks are to be carried out by a Naiad Dynamics service engineer in conjunction with the contractors engineering staff. Supplier costs must include all cranage, transport, supply of covered working facility and associated labour for both removal and refitting of the stabiliser shafts.

7.2.1 Remove and clean the Port and Stbd Stabiliser stocks and fins;

7.2.2 Inspect the fins, Stocks, Bearings and Seals;

7.2.3 Measure fin stock bearing clearance and check bearings for wear;

7.2.4 Renew the thrust bearings and mechanical seals;

7.2.5 Overhaul the Port and Stbd Top Plate Assemblies; and

7.2.6 On completion of all agreed work, re-install the Stabiliser fins, set to work and function test to the satisfaction of the BFOO.

Trials

8.1 The trials required shall be to prove that the executed work has been carried out satisfactorily and that the systems can be checked and confirmed as fully and effectively re-commissioned. Other than fuel, all costs related to the operations of test and trials will be the responsibility of the Supplier. This includes the Suppliers personnel provided for sea trials as well as service engineer attendance.

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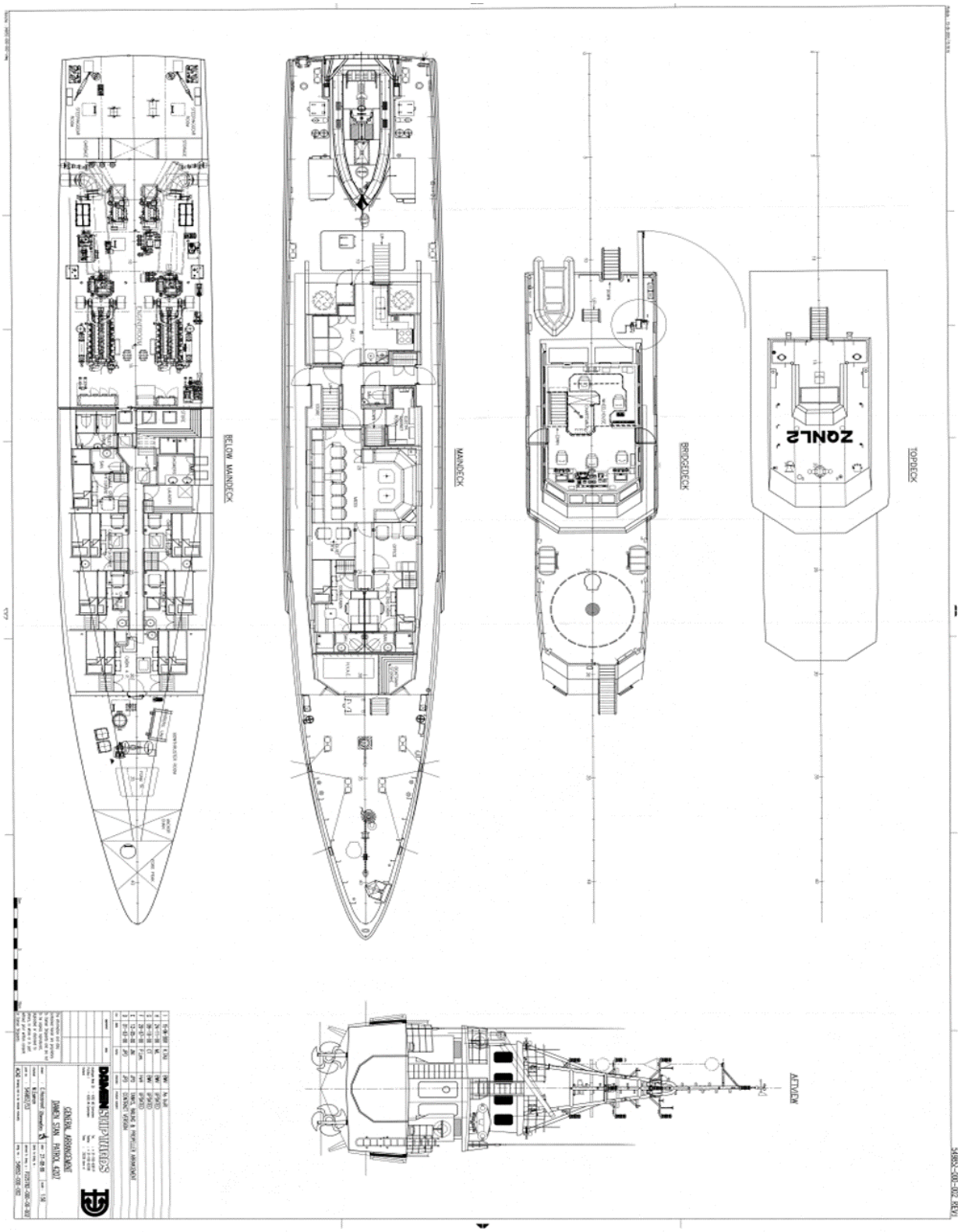
Annex A: General Arrangements



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Annex B: General Details

Border Force	Name	MMSI	Callsign
	HMC VIGILANT		**ZITI4**
Length overall (LOA)	42.80 m		
Length waterline (LWL)	42.80 m		
Beam Overall	6.95 m		
Draught aft full load	2.5 m		
Ht Overall USK to mast	17.8 m		
Displacement	251.1 tons		
Deadweight	69.3 tons		
Gross Tonnage	235 tons		
Construction	Steel Hull Aluminium Superstructure		
Main Engines	2x Caterpillar 3156B		
Gearbox	2x Reintjes WLS		
Propulsion	2x Controllable Pitch Propellers		
Speeds	26.50 knots		
Manoeuvrability	2x Rudders		
Range / Endurance	Up to 2150 nautical miles at 12 knots		
Fuel	23 cubic metres		
Fuel Consumption	Variable		
Fresh water	6 cubic metres		
Black Water	2 cubic metres		
Accommodation	16 persons		
Built to	Lloyd's 100A1 SCC		

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Annex C: Docking Plan

Damen 4207 - Docking Plan.pdf

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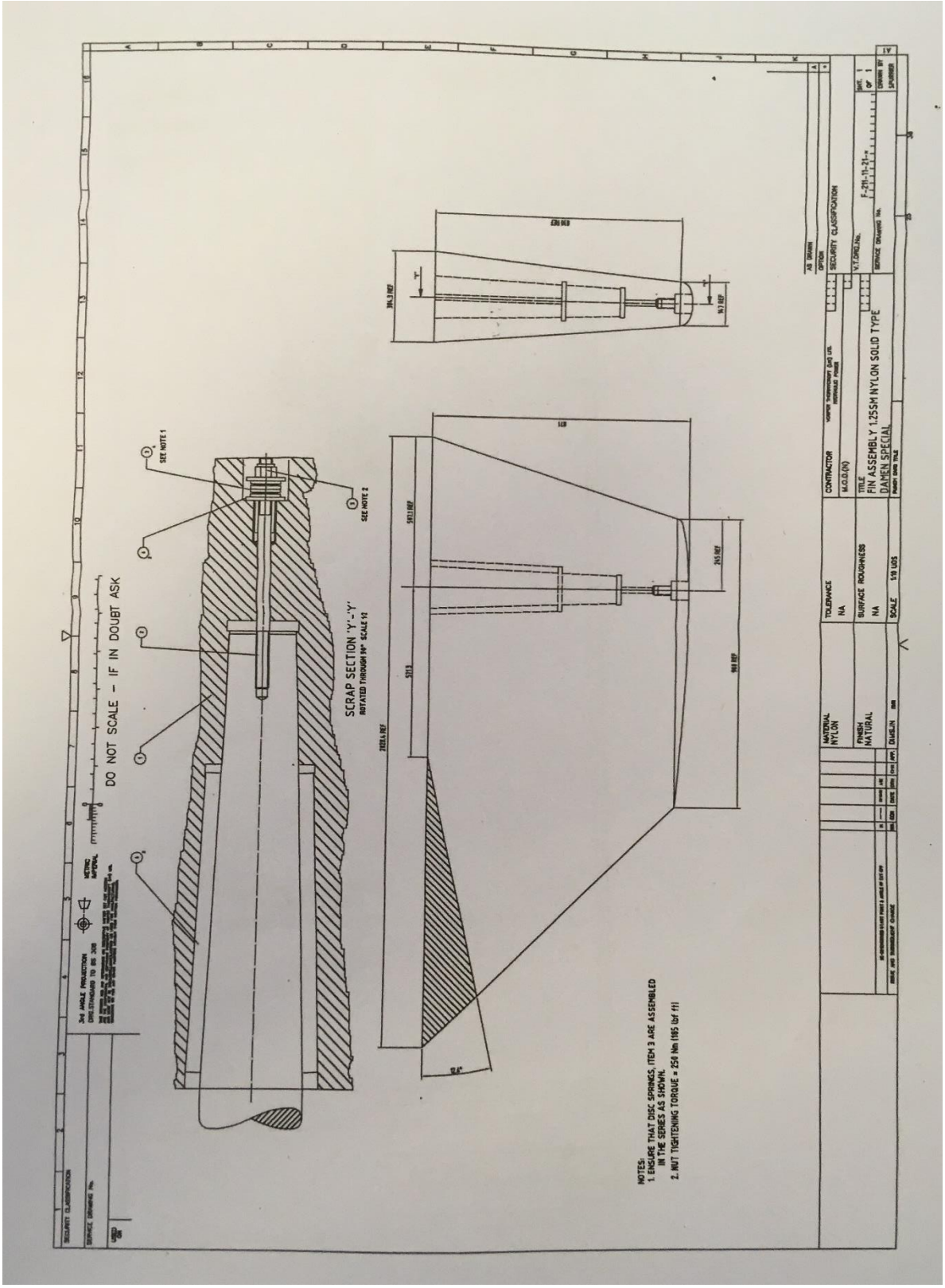
Annex D: Stabilisers



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COMPONENT REMOVAL/RECONDITION/RENEWAL

FIN REMOVAL AND REFITTING

Note The following special tools are required:

Suitable lifting equipment

Wooden wedges

Fin extraction tool -- 1¼" - 12 UNF (counterbored 17 mm.) -- Optional

Fin Removal (Figure 1)

WARNING **ENSURE THAT SYSTEM IS SHUT DOWN AND THAT ALL PRESSURE IS DISPERSED. ISOLATE POWER SUPPLIES AND PLACE WARNING NOTICES**

1. Ensure that the fin locking bolts are fully engaged.
2. Using suitable lifting equipment (see note 2, page 2) support the fin (1) and remove the nyloc nut (5), plain washer (4), belleville spring washers (3) and plain washer (4) from the tie bar (2).
3. Drive wooden wedges between the fin and the shell levelling pad to release fin from the tapered stock.
4. If required, an extraction tool (8) can be inserted over the exposed tie bar (2) to assist in removal by screwing into the internal 'helicoil' thread.
5. Adjust the lifting equipment as necessary to clear the fin from the fin stock and carefully lower the fin to a prepared site on the dock floor taking care not to damage the fin surface.

Cleaning and Examination

1. Thoroughly clean the stock taper, keys and tapered bore of the fin.
2. Examine the fin structure for signs of damage and make good any defects found.

Fin Refitting (Figure 1)

1. Ensure the tie bar (2) is clean and grease free. Apply Loctite 221 to the tie bar thread and screw into the stock (7).
2. Use lifting equipment (see note 2, page 2) to raise fin to the stock.
3. Check that the keys (6) are correctly in position on the stock (7).
4. Align fin keyways with the stock keys and position fin on the stock.
5. Assemble plain washer (4) over tie bar (2), followed by the four 'belleville' disc spring washers (3) and a further plain washer (4).
6. Secure the whole assembly with nyloc nut (5) and tighten to a torque referred to in the Technical Data.

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KEY TO FIGURE 8 FIN STOCK/LOWER BEARING CLEARANCES AND LIMITING DIMENSIONS

ITEM	DESCRIPTION
1	Fin Stock Lower Bearing Bore
2	Fin Stock Diameter
3	Fin Stock Lower Bearing Clearance

PERMISSIBLE LIMITS OF WEAR (design)								
ITEM	DIMENSIONS (mm)				RADIAL CLEARANCES (mm)			
	Acceptable		Actual		Acceptable		Actual	
	Min.	Max.	Closing	Opening	Min.	Max.	Closing	Opening
*1	140.16							
2	139.00	139.95						
3					0.21	1.16		

* Dimensions taken with lower bearing fitted and wet.

Original Dimensions and Manufacturing Tolerances

ITEM	DIMENSIONS (mm)
**1	140.32 - 140.18
2	139.95 - 139.85

** Tolerance for a dry bearing.

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Annex D: Handover Certificate

HMC Vigilant	Border Force

This Handover Certificate is to be duly signed by a representative of the Authority and the Supplier should the aforenamed vessel, for whatever reason, be required to be lifted from the water and moved to a berth on land.

Immediately upon signing this Handover Certificate by the Supplier, the responsibility and safe custody of HMC Vigilant is accepted by the Supplier and the responsibility, safe custody and seaworthiness of the vessel will always thereafter remain with the Supplier until issued with an Authority-signed Acceptance Certificate.

Statement of Condition issued by (BFOO):

HMC Vigilant is in a safe and stable condition. All systems have been shut down, (except those as listed below, commensurate with the systems as required by the Supplier).

Tank Contents				
Fuel		**litres**		
Fresh water		**litres**		
Black Water Tank		**litres**		

Systems Still Operational

Signed:	**Signed:**
For and on Behalf of the Supplier:	**For and on Behalf of the Authority:**
Name:	**Name:**
Position / Capacity:	**Position / Capacity**

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Annex E: Acceptance Certificate

Acceptance Certificate

Border Force

PART I: to be completed by Supplier

HMC Vigilant

HMC Vigilant having been removed from the water to perform maintenance tasks associated with contract C22117 and having been successfully returned to the water and re-floated in a seaworthy condition, and to the satisfaction of the BFOO, is this day offered for acceptance by the Authority.

Signed:	For and on Behalf of the Supplier:
Print Name:	Date:

PART II: to be completed by The Authority

I attended the re-floating of HMC Vigilant and have satisfied myself that all systems, machinery, and equipment are working satisfactorily. I have inspected the Cutter and consider she is in a condition suitable for return to the Authority and is hereby accepted.

By Vessel Commander:

Signed:	Print Name / Post:

By BFOO:

Signed:	BFOO
Print Name:	Date:

PART III: Notes

Distribution
Original - Retained by the Supplier
Copies to - BFOO

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