Border Force

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

STATEMENT OF REQUIREMENTS

PLANNED MAINTENANCE AND SAFETY EQUIPMENT RECERTIFICATION TO CPV HUNTER AND SPEEDWELL

NOVEMBER 2019

Ref: C17104

CONTENTS

DEFINITIONS:

Acceptance	The issuing of an acceptance document, signed by the Authority following the completion of an Annual Maintenance & Repair Period to the satisfaction of the Authority.
Additional Work	Unprogrammed work outside of the scope of planned or scheduled work, which is notified to the Supplier more than ten days prior to the commencement of any Maintenance & Repair Period.
Agreed Facility	A single phone number for the Supplier giving access to a point of contact able to give user friendly assistance to persons experiencing technical problems with any part or operation of the CPVs
Cardinal Date Plan (CDP)	A plan provided by the Supplier mapping out the significant dates for a project
Coast Patrol Vessel (CPV)	The Vessel as detailed in Annexes D & E
Collar	RIB Collars (also known as RIB Tubes or Sponson) are the inflatable section of a Rigid Hull Inflatable OR A polyurethane coated closed cell foam cored buoyant Collar offering similar properties.
Defect Rectification	Work undertaken to resolve any kind of defect identified and listed in the work package.
Driveline	The CPV Driveline is the engines, water jets and drive shafts, and components used to connect these together
Emergent work	Any work that emerges from the Planned Maintenance, which is notified to the Supplier in this Statement of Requirements. Any repairs which are required as a direct result of defects found with during this package of works.
Highlight Reports	A report highlighting the details, cause and effect, of a deviation from the agreed Cardinal Date Plan.
Lloyd Register	Lloyd's Register's Rules and Regulations set standards for the design, construction and lifetime maintenance of ships, offshore units and land-based installations.
Major Defect	Any defect or fault which reduces the performance of the CPV, so it is unable to perform its duties.
Milestone Payment Plan	A plan setting out the significant milestone payments process for each Maintenance and Repair period
Minor defect	Any defect or fault which reduces the performance of the CPV while allowing it to be safely operated for its duties.
Original Equipment Manufacturer (OEM)	The original manufacturer of a piece of equipment.
Planned Maintenance	The package of works as detailed at Annex A
Project Manager	A member of the Suppliers personnel who is responsible for the overall planning and execution of a project.
Progress Report	A report giving details of progress against the agreed CDP
Rectification Plan	A plan to rectify a specified defect, giving dates and reasons for relevant actions to effect full rectification of the defect.
Safe Working Load (SWL)	The maximum load a piece of equipment can safely lift.
Warranty	A guarantee, issued to the Authority by the Supplier, promising to repair or replace something if necessary, within a specified period of time.
Working Location	The area in which the CPV is operational

Part 1: GENERAL

1. Background

1.1 The Authority currently operates a fleet of eleven sea going patrol craft operating in both UK National and International waters. This consists of five Cutters and six Coastal Patrol Vessels (CPV).

1.2 The six CPVs are equipped and certified to comply with Maritime Coastguard Agency (MCA) MGN 280 (M) Small Vessels in Commercial Use for Sport or Pleasure, Workboats and Pilot Boats – Alternative Construction Standards, Category 2, for service in waters up to 60 nautical miles from a safe haven.

1.3 The primary roles of the CPVs are: -

1.3.1 To provide a mobile, flexible seaborne force capable of maintaining an effective deterrent against illegal immigration, smuggling and other breaches of the law administered by Border Force both within and outside the territorial waters of the UK.

1.3.2 To increase maritime intelligence, undertake surveillance and improve international liaison in combating illegal immigration, the smuggling of drugs and movement of instruments of terrorism by sea;

1.3.3 To intercept suspect vessels in territorial and international waters; and

1.3.4 To provide mutual assistance to other EC countries, the Channel Isles, the Isle of Man and other partners on the UK border.

1.4 In addition to these primary responsibilities, Border Force also undertake tasks on behalf of the Ministry of Defence, Maritime and Coastguard Authority, National Crime Agency, Police and UK Fisheries Agencies.

1.5 The CPVs were originally built by Delta NP as Autonomous Rescue & Recovery Craft (“ARRC”), for use as Search & Rescue (SAR) assets for operation in the North Sea and were recommissioned by Border Force in 2017/18.

1.6 The CPVs are built from a Fibre Reinforced Plastic (FRP) sandwich construction with hybrid buoyant foam / air filled Collar and an enclosed wheelhouse and mission space.

Part 2: REQUIREMENTS AND CONSTRAINTS

2.0 Requirements

2.1 The objective of this specification is to provide requirements for;

2.1.1 The annual Maintenance of equipment and machinery;
2.1.2 The annual recertification of all safety equipment;
2.1.3 Rectification of specified defects.

3.0 Location

3.1 Due to the operating area of the vessels, both lots are to be undertaken in the geographic region from Lowestoft to the Portland.

4.0 Constraints

4.1 All specified work must be completed.

4.2 All work carried out must be compliant to all applicable standards or regulations and in accordance with best industry standards.

4.3 All new parts and equipment fitted should be supportable for a period of five years following installation.

4.4 All new equipment shall be provided with relevant operator & maintenance documentation, and any applicable certification.

4.5 All work is to be completed as follows:

4.5.1 LOT 1 Hunter: Over a 2-week period from 03rd to the 14th of February 2020.

4.5.2 LOT 2 Speedwell: Over a 2-week period from 02nd to the 13th of March 2020.

3: PROVISION OF SERVICES

5.0 General Requirements

5.1 The Supplier will appoint a dedicated Project Manager, as a single point of contact, for the duration of the Project.

5.2 The Authority will delegate a Border Force Overseeing Officer (BFOO) for the duration of this contract, who shall be entitled to inspect any work or to have it inspected by his duly authorised representative.

5.3 On arrival at the supplier's premises the respective CPV will be formally handed over to the Supplier using the formal handover document at Annex D. Thereafter, the Supplier will be formally approached for consent in respect of any Authority activity or the activity of any Authority designated / arranged contractor onboard.

5.4 The Supplier shall submit a draft Cardinal Date Plan (CDP) covering the completion of all planned work with the formal quotation for this work package, in an accessible Microsoft Office document format (word or excel), for approval by the Authority, once agreed by the Authority this will form the final CDP to be followed.

5.5 The Supplier is to provide Highlight Reports within twenty-four hours of all identified deviations from the CDP.

5.6 During the contract period the BFOO shall, during normal working hours, be given access to all premises of the yard or its suppliers where any parts are being manufactured, repaired or serviced.

5.7 During the contract period the Supplier shall provide reasonable office accommodation for use by the Authority, to include printing facilities.

5.8 All tasks shall be completed by appropriately qualified and experienced personnel in relation to the equipment being worked upon.

5.9 The Supplier will be expected to clean the working area and remove and dispose of those component parts that are replaced and all waste created during this project, in addition to returning the vessel to its original state of cleanliness on handover.

5.10 All minor consumable fixings, sealants etc required to rectify defects to be provided by the Supplier.

5.11 The supplier is required to provide secure storage for the vessel's equipment stored in the mission and bunk space.

5.12 All bunk space soft furnishings, including mattresses are to be removed to a secure clean environment for the duration of the work, or covered to adequately protect them from dirt. If soiled, they are to be returned to a clean and usable state.

5.13. On completion of all work and prior to handback, the vessel shall be cleaned to an acceptable standard for immediate operational use as accepted by the Authority.

Part 4: WARRANTY

6.0 Warranty Requirements

6.1 The Supplier shall provide an Agreed Facility for reporting faults and obtaining technical advice, covering the hours between 08:00 and 16:30, Monday to Friday, for the logging of faults or data. Response times for such service shall allow for all faults to be logged, given a reference number and Rectification plan agreed between all parties within a maximum of forty-eight hours of the fault being logged.

6.2 The Supplier shall provide warranty repairs in the event that any of the supplied or repaired parts develops a fault during the parts warranty period.

6.3 All Work carried out by the Supplier during the period of this contract shall be covered by a one-year Warranty commencing from the date of acceptance back in to the custody of the Authority.

6.4 All new parts supplied or fitted during the period of this contract shall be covered by a one-year warranty or such other provided warranty if it is longer than the minimum one year commencing from the date of acceptance back in to the custody of the Authority.

6.5 In the event that a Warranty Major Defect is notified to the Supplier that will render a CPV non-operational. The Supplier shall provide services to ensure the CPV is restored to full

working condition within forty-eight hours, calculated from the date and time on which the Authority agrees the Supplier personnel can gain access to the CPV. In the event a Major Defect cannot be rectified within the assigned period, a Rectification Plan must be agreed with the Authority within forty-eight hours of identification of the potential failure.

6.6 In the event that a Warranty Minor Defect is notified to the Supplier, other than those that will render the CPV non-operational, the Supplier shall provide services to ensure the CPV is restored to full working condition, as quickly as possible, and in any event, within ten working days, calculated from the date and time on which the Authority agrees the Supplier personnel can gain access to the CPV. In the event a Minor Defect cannot be rectified within the assigned period, a Rectification Plan must be agreed with the Authority within forty-eight hours of identification of the potential failure.

Part 5: TRIALS, DOCUMENTATION AND ACCEPTANCE

7.0 Trials

7.1 On completion of all work and once the Supplier has satisfied themselves that the CPV is seaworthy this will be demonstrated to the Authority who will provide an Acceptance Certificate and confirm the hand back of the CPV into the Authority's custody and responsibility. Where propulsion work has been undertaken, this shall include propulsion and manoeuvring trials measured against original trials data for comparison.

The Authority will provide, in respect of launching and pre-sea trails, for completion by the Supplier;

a) Acceptance certificate form as at Annex F

7.2 Any trials required shall be to prove that the executed work has been carried out satisfactorily and that the various 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.

7.3 Because of the specialist nature of the vessel, the Authority will provide a crew member familiar with the navigational control and engineering systems of the CPV.

8.0 Documentation

8.1 All certification required for regulatory compliance or requested by the Authority shall be supplied enclosed in clear envelopes within four-ring binders complete with an index. An electronic copy shall be forwarded by e-mail to the Authority in an accessible Microsoft Word format.

8.2 All certificates and reports specified as required are to be provided before acceptance.

8.3 All certificates and reports specified as required are to be provided in a hard copy folder to the vessel before departure and electronically emailed to the Authority.

8.4 Certifications are required in the following format:

a) One set of hard copies

b) One set of electronic copy with index

NB: Although these sets of certifications are to be presented at the Acceptance Meeting, to minimize time spent in checking these during the acceptance meeting prior opportunity shall have been given to the Border Force Overseeing Officer to check the contents and the index.

9.0 Acceptance

9.1 Final acceptance will be the issuing of a Final Acceptance document as at Annex E, signed by the Authority.

9.2 The Final Acceptance document will be issued after:

9.2.1 Successful completion of any trials required for the work undertaken.

9.2.2 Delivery of Certificates of Conformity for all new equipment fitted.

9.2.3 Delivery of all documentation and certificates as specified in part 8 of this Statement of Requirements.

10.0 Charges and Payment

10.1 On completion the Supplier shall provide the Authority with a completed schedule showing the individual cost breakdown for each item of Planned Work and Emerging Work for approval. Following approval of this schedule the Supplier will invoice the Authority for 90% of the total amount.

10.2 The remaining 10% shall be invoiced following a one calendar month snag free period in relation to the work completed.

10.3 All travel and subsistence costs related to warranty defect repairs shall be recharged at the Home Office reimbursable T&S rates as stipulated in Annex F.

Annex A – Lot 1 – Annual Maintenance, LSA and Unique Defects – CPV Hunter

Location:

Work is to be completed in the region between Lowestoft and Portland.

Dates:

Over a period of ten (10) working days between the 03rd and 14th of February 2020.

1.0 HULL

1.1 Lift the CPV from the water, using an in date certified lift and appropriate safe process to reduce the stresses on the GRP hull and prevent damage.
1.2 Pressure wash off the hull with fresh water and degrease.
1.3 Block off the hull, ensuring hull stresses are minimised.
1.4 Inspect the GRP hull for damage and advise the Border Force Overseeing Officer of the results and any recommendations for remedial work.
1.5 Abrade the hull existing antifouling and apply two coats of International Interspeed 6400 Antifouling paint IAW international paint instructions and CPV paint scheme. Contractor to supply paint.
1.6 Renew 6 zinc anodes, 4 inside the sea chest and the 2 main hull anodes and undertake anode continuity check. Contractor to supply anodes IAW supplied drawing at annex I.
1.7 Inspect superstructure and deck, providing a report on preservation condition and remedial work recommended.
1.8 Launch the CPV when required.
1.9 Provide alongside berthing as required during LSA / Maintenance period.
1.10 Inspection to the satisfaction of the overseer to be conducted prior to launch.

2.0 SPONSONS

NB: In order to undertake the sponson pressure test specified below and any subsequent repair identified as required, the vessel is to be in an environmentally controlled facility.

2.1 Survey of the sponsons, including anti slip, rubbing strakes and integrity of attachments.
2.2 Survey of the sponson attachment to GRP hull landing, soap tests to seams.
2.3 Carry out sponson air compartment air test to 120% of the working pressure for 30 minutes (2 psi).
2.4 Inflate all compartments to the working pressure (1.65 psi), record ambient temperature. After 24 hours check working pressure has not dropped taking ambient temperature change into account.
2.5 Survey all sponson inflation valves.
2.6 A satisfactory inflation test certificate is required to be provided suitable for Class 2 use under MGN 280 4.5.3. Stating the above has been achieved.
2.7. If a satisfactory inflation test is initially not achieved a report of findings and costs to rectify / retest is to be provided to the overseer.

3.0 ANNUAL MCA SURVEY AND CERTIFICATION

3.1 Arrange for an MCA approved Class 2 surveyor in accordance with MGN 280M section 27 to undertake the following:

3.1.1 Conduct the requisite out of water survey to satisfy the requirements for continuation of issue of a Small Commercial Vessel Certificate.

3.1.2 To provide a written survey report covering all aspects required by MGN 280M. (Currently Border Force have Class 2 certification with YDSA).

3.1.3 Sign relevant section of the SCV2A confirming a satisfactory survey has been completed.

4.0 LIFE SAVING EQUIPMENT

4.1 Undertake annual life raft service Surviva 6 man x2. (not required on this occasion).

4.2 Service the following portable Fire extinguishers and fire blanket, identify with indelible service date marking and provide itemised annual certification.

4.2.1 CO2 Extinguishers
- 4.2.1a Wheelhouse portside
- 4.2.1b Wheelhouse stbdside
- 4.2.1c Wheelhouse Chart table
- 4.2.1d Top of Stairwell
- 4.2.1e Main Deck aft

4.2.2 6 Kg Dry Powder
- 4.2.2a Wheelhouse port
- 4.2.2b Mission space stbd side

4.2.3 6 litre Foam
- 4.2.3a O/S Engine room

4.2.4 Fire Blanket
- 4.2.4a Galley

4.3 Lay out the 18m fire hose and pressure test the hose to 4 Bar.

4.4 Inspect and functionally test firefighting Nozzle.

4.5 Carry out annual service and provide certification for all sections of the Hadrian Safety rail. (Hadrian rail fitted around the upper deck to the superstructure at waist height and short sections on the wheelhouse roof, engine room roof and in front of wipers. (Static load test of 300Kn/300kg required horizontally from harness carriages at all critical points on rail)

4.6 Inspect and certify 4 lifejacket-to-traveller rail lanyards and 2 working at height harnesses and lanyards.

4.7 Carry out annual service to 8 inflatable lifejackets and provide certification for. (Crewsaver Seacrewsader 2010 275N).

4.8 Approved fire safety contractor to undertake annual inspection and test of the fire detection system.

4.9 Undertake test of rock 7 remote monitoring system sensors and confirm transmission to remote monitoring. (1x intruder, 1x smoke detector, 4x bilge).

4.10 Itemised certification for all the above to be provided.

5.0 DRIVE SHAFTS & COOPER BEARINGS

5.1 Cooper Bearings;

5.1.1 Conduct visual inspection of the 4 Off seal housings.
5.1.2 All retaining fixtures are to be checked for correct torque values.

5.2 Drive Shafts and couplings;

5.2.1 Inspection of the two drive shaft drive units.
5.2.2 Inspection of all couplings for cracking, chipping, damage to the corrosion prevention coating.
5.2.3 All retaining fittings are to be checked for correct torque values. (Carbon Shaft section M10 Allen bolts 40nm, all other fixings IAW supplied CENTRA installation manual).

6.0 BLACK WATER SYSTEM

6.1 Flush and disinfect the system.
6.2 Carry out a functional test of system, including level indication system identifying any leaks or issues to the overseer.

7.0 LOAD TESTING AND STRUCTURAL INSPECTION

7.1 Conduct an annual inspection of the anchor windlass structure security, anchor and anchoring equipment, providing a report on the findings.
7.2 Load test the anchor windlass to 1.2x the Safe Working Load (SWL) and provide certification (180KG Dynamic and 600kg static).
7.3 Undertake an annual inspection of the aft Sampson post mounting structure, check securing bolt tightness and provide a report on the findings. Load test to 2 tonnes.
7.4 Conduct an annual inspection of the fwd. securing post and mounting structure, providing a report on findings.

8.0 ELECTRICAL 240 AC & 24 DC

8.1 Carry out electrical system inspection, including conducting insulation tests on the following systems;

8.1.1 240-volt AC distribution.
8.1.2 24-volt DC distribution.
8.1.3 Shore power cable and connection system.
8.1.4 Undertake PAT testing on up to 15 items identified by the overseer.
8.1.5 Undertake battery capacity tests on all battery banks (Port, Stbd, emergency, Hamilton jet control and generator start battery).
8.1.6 Provide report with recommendations, test results and certification for all the above.

8.2 Carry out radiation test on the microwave oven and certify.
8.3 The Onan 7MDKDL 240-volt AC alternator is to have;

8.3.1 800-hour service by an approved service agent (Full service, including all tasks up to and including 800 hr requirement IAW manufacturer's instructions).
8.3.2 Alternator winding, insulation test carried out.

9.0 FRESH WATER & BILGES

9.1 Open and inspect fresh water tanks, clean as necessary, carry out super chlorination process of the fresh water system, including holding tanks, pipework, taps etc, flush and conduct potable water biological test, including legionella test on galley tap, providing potable water certification on completion. (total tank capacity 274 Litres)

9.2 Check operation of bilge alarms / sounder and undertake functional test of all manual and electric bilge pumps. Written confirmation of test results to be provided.

9.3 Engine room located calorifier;

9.3.1 Carry out pressure test to 1.5x the working pressure on the pressure vessel and provide certification.

9.3.2 Remove the safety valve, carry out a functional test and certify or replace with new certified valve. Provide certification.

10.0 NOVEC 1230 FIXED FIRE FIGHTING SYSTEM & FIRE PUMP

10.1 Approved fire safety contractor to carry out annual service of the fixed firefighting system, including;

10.1.1 Pressure check.
10.1.2 Liquid Level check.
10.1.3 Remote pressure monitoring indicator check.
10.1.4 System Inspection report and certification required on completion.
10.1.4 Functionally test and certify manual fire pump.

11.0 DOMETIC AIR CONDITIONING SYSTEM

11.1 Conduct an annual service on the Wheelhouse and Accommodation Air Conditioning units, including:

11.1.1 Remove and clean the return air filters, dry and replace.
11.1.2 Open up and clean the reversing valve, inspect and replace.
11.1.3 Electrically isolate the system, disconnect the inlet and outlet connections to the condenser coil and undertake a chemical clean of the condenser and saltwater pipework. Flush, reconnect and check for leaks on completion.
11.1.4 Reconnect the system and carry out both a heating and cooling function test on completion when the vessel is afloat, demonstrating correct functionality to the overseer.

12.0 EBERSHACER MODEL D4 AUTRONIC DIESEL OIL FIRED HEATER x2

12.1 An annual service is to be carried out on the 2 Ebershacer Model D4 oil fired diesel heaters by a qualified Ebershacer service agent. Report of service / certification to be provided on completion.

13.0 SHORE POWER

13.1 Provision and supply of 240-volt 50 Hz, single phase shore power, for the LSA and maintenance period whilst the CPV is ashore and alongside being commissioned up until acceptance.

14.0 HM521 HAMILTON JET UNITS

14.1 Undertake a thorough inspection of the Hamilton water jet system and report the findings.
14.2 Undertake annual hydraulic pack oil and filter change. (BF supply oil and filters)
14.3 Undertake annual bearing oil change. (BF supply oil).
14.4 Supply and Replace all Hamilton jet anodes IAW the attached drawing. (Supplier to provide anodes).
14.5 Prepare and Antifoul jets with Trilux 33 (black). Allow approximately $7m^2$. (Supplier to provide paint).

15.0 HULL VALVES

15.1 The following stainless-steel main sea inlet valves are to be replaced with new ball valves to the same specification as existing and certification provided, or the existing valves removed, refurbished, tested to confirm watertight and free to move, certified and refitted;

15.1.1 2x 3" Ball valves main engine inlets.
15.1.2 1x 2" Ball valve Generator supply.

15.2 The following additional hull valves are to be tested watertight and free to move, including correct functioning of any remote operating device;

15.2.1 1x Air conditioning SW inlet valve.
15.2.2 1x Air conditioning SW discharge valve.
15.2.3 1x 2" Ball valve Black water discharge valve.
15.2.3 1x manual fire pump sea inlet valve.

15.3 The main sea chest cover plate where the 3" and 2" hull valves are mounted is to be removed, sea chest cleaned out, the seal and 4 internal anodes replaced. (Anodes listed at 1.6)

16.0 COMPASS SWING

16.1 Arrange for a compass swing to be undertaken at the end of the maintenance period and appropriate documentation supplied.

17.0 CERTIFICATES

17.1 All certificates and reports specified as required are to be provided in a hard copy folder to the vessel before departure and electronically emailed or supplied on a memory stick to the overseer. All certificate details should be indexed and ordered.

18.0 WARRANTY

18.1 All Work carried out by the Supplier during the period of this contract shall be covered by a one-year Warranty commencing from the date of acceptance back in to the custody of the Authority.

18.2 All new parts supplied or fitted during the period of this contract shall be covered by a one-year warranty or such other provided warranty if it is longer than the minimum one year commencing from the date of acceptance back in to the custody of the Authority

19.0 ACCEPTANCE & TRIALS

19.1 Any trials required shall be to prove that the executed work has been carried out satisfactorily and that the various 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.

19.2 Because of the specialist nature of the vessel, the Authority will provide a crew familiar with the navigational control and engineering systems of the CPV to undertake the trials.

UNIQUE DEFECTS FOR RECTIFICATION – CPV HUNTER

1. Intermittent fault on Navigation light test facility where the system indicates a circuit fault, yet the light is still functioning. Allow 3 hours of electrician time to investigate and repair/report findings.

2. Air conditioning hull valve operating mechanism difficult to operate. Allow 3 hours mechanical fitter time to Investigate and rectify.

3. Lower air conditioning unit trips on HP alarm when in use. Investigate and rectify. Investigation will require to be undertaken with the vessel in the water.

4. Minor Fuel leak on pipework in vicinity of fuel dip tube aft end of tank. Investigate source of leak and rectify (See picture below). Engines will need to be run to investigate and identify leak, this will require to be undertaken before lifting the vessel out of the water. Allow 4 hours of mechanical fitter time.

5. Port wheelhouse window wiper intermittently operates when not turned on. This occurs when powering up the vessel during start up and intermittently thereafter. Allow 4 hours of electrician time to investigate and rectify.

6. Water ingress from wheelhouse escape hatch when at sea (Lewmar). Leak test to investigate source and rectify. Allow for 4 hours of shipwright time. Material identified as required to be charged as emergent work.

7. Jet space fire detector does not enunciate system fault when removed. Detector head does sound fire alarm when activated with smoke. Investigate and rectify circuit fault issue. Defect to be rectified before completing fire detection test and certification at 4.8. of LSA requirement. Material identified as required to be charged as emergent work.

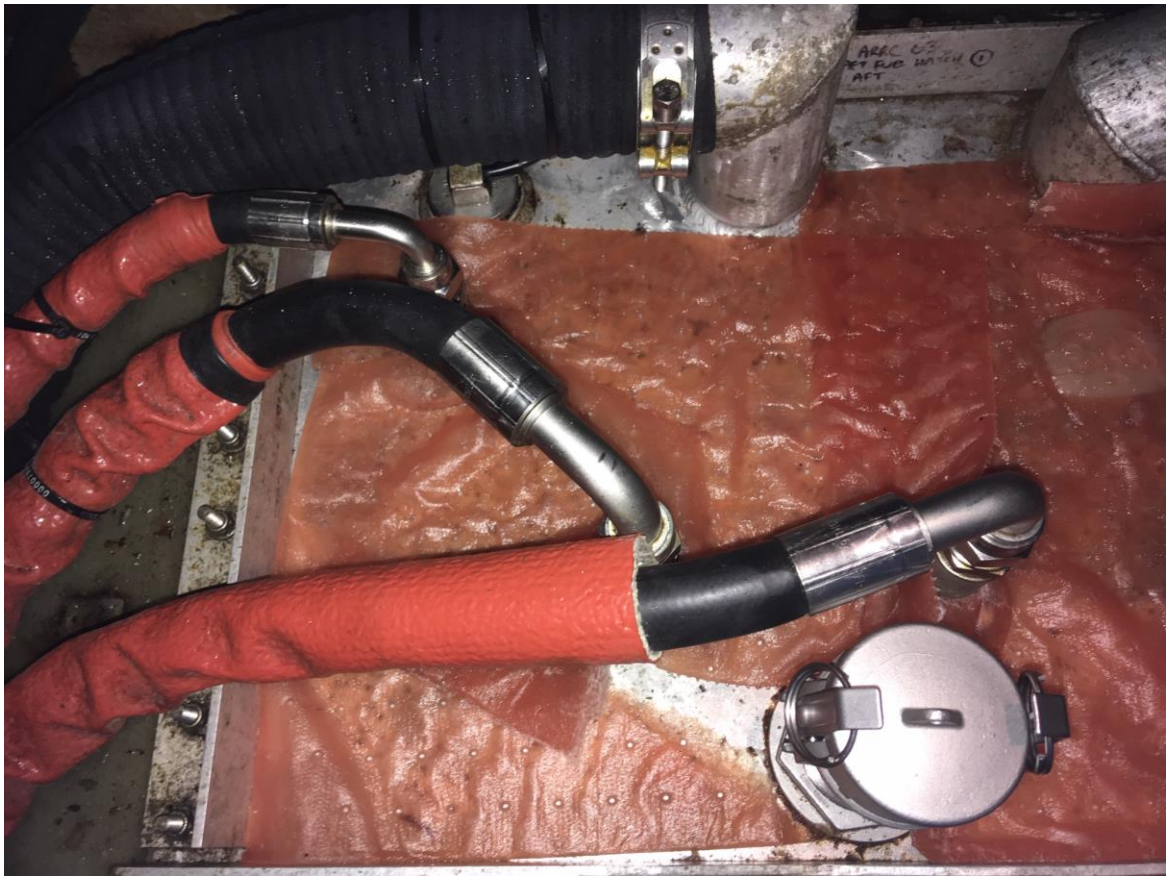
8. Anti-slip paint coating on jet space hatches X 2 degraded and chipping off. Strip back to bare and recoat, appropriate preparation and primer to be used to prevent reoccurrence. See Picture below. Supplier to provide paint.

9. 2 X LED Deck lights port side not working. Allow 4 hours of electrician's time to investigate and rectify. Material identified as required to be charged as emergent work.

10. Water leak into wheelhouse port fwd. above chart plotter. Leak test wheelhouse roof, identify and rectify leaks. Removal of deckhead lining will be required. Allow 6 hours of shipwright time to undertake.

NB: Defects to be costed, including provision of material where specified.

Hunter Defect 4 fuel leak



Hunter Defect 8.

Annex B – Lot 2 – Annual Maintenance, LSA and Unique Defects – CPV Speedwell

Location:

Work is to be completed in the region between Lowestoft and Portland.

Dates:

Over a period of ten (10) working days between the 02nd and 13th March 2020.

1.0 HULL

1.1 Lift the CPV from the water, using an in date certified lift and appropriate safe process to reduce the stresses on the GRP hull and prevent damage.
1.2 Pressure wash off the hull with fresh water and degrease.
1.3 Block off the hull, ensuring hull stresses are minimised.
1.4 Inspect the GRP hull for damage and advise the Border Force Overseeing Officer of the results and any recommendations for remedial work.
1.5 Abrade the hull existing antifouling and apply two coats of International Interspeed 6400 Antifouling paint IAW international paint instructions and CPV paint scheme. Contractor to supply paint.
1.6 Renew 6 zinc anodes, 4 inside the sea chest and the 2 main hull anodes and undertake anode continuity check. Contractor to supply anodes IAW supplied drawing at annex I.
1.7 Inspect superstructure and deck, providing a report on preservation condition and remedial work recommended.
1.8 Launch the CPV when required.
1.9 Provide alongside berthing as required during LSA / Maintenance period.
1.10 Inspection to the satisfaction of the overseer to be conducted prior to launch.

2.0 SPONSONS

NB: In order to undertake the sponson pressure test specified below and any subsequent repair identified as required, the vessel is to be in an environmentally controlled facility.

2.1 Survey of the sponsons, including anti slip, rubbing strakes and integrity of attachments.
2.2 Survey of the sponson attachment to GRP hull landing, soap tests to seams.
2.3 Carry out sponson air compartment air test to 120% of the working pressure for 30 minutes (2 psi).
2.4 Inflate all compartments to the working pressure (1.65 psi), record ambient temperature. After 24 hours check working pressure has not dropped taking ambient temperature change into account.
2.5 Survey all sponson inflation valves.
2.6 A satisfactory inflation test certificate is required to be provided suitable for Class 2 use under MGN 280 4.5.3. Stating the above has been achieved.
2.7. If a satisfactory inflation test is initially not achieved a report of findings and costs to rectify / retest is to be provided to the overseer.

3.0 ANNUAL MCA SURVEY AND CERTIFICATION

3.1 Arrange for an MCA approved Class 2 surveyor in accordance with MGN 280M section 27 to undertake the following:

3.1.1 Conduct the requisite out of water survey to satisfy the requirements for continuation of issue of a Small Commercial Vessel Certificate.
3.1.2 To provide a written survey report covering all aspects required by MGN 280M. (Currently Border Force have Class 2 certification with YDSA).
3.1.3 Sign relevant section of the SCV2A confirming a satisfactory survey has been completed.

4.0 LIFE SAVING EQUIPMENT

4.1 Undertake annual life raft service Surviva 6 man x2. (not required on this occasion).
4.2 Service the following portable Fire extinguishers and fire blanket, identify with indelible service date marking and provide itemised annual certification.

4.2.1 CO2 Extinguishers
- 4.2.1a Wheelhouse portside
- 4.2.1b Wheelhouse stbdside
- 4.2.1c Wheelhouse Chart table
- 4.2.1d Top of Stairwell
- 4.2.1e Main Deck aft

4.2.2 6 Kg Dry Powder
- 4.2.2a Wheelhouse port
- 4.2.2b Mission space stbd side

4.2.3 6 litre Foam
- 4.2.3a O/S Engine room

4.2.4 Fire Blanket
- 4.2.4a Galley

4.3 Lay out the 18m fire hose and pressure test the hose to 4 Bar.
4.4 Inspect and functionally test firefighting Nozzle.
4.5 Carry out annual service and provide certification for all sections of the Hadrian Safety rail. (Hadrian rail fitted around the upper deck to the superstructure at waist height and short sections on the wheelhouse roof, engine room roof and in front of wipers. (Static load test of 300Kn/300kg required horizontally from harness carriages at all critical points on rail)
4.6 Inspect and certify 4 lifejacket-to-traveller rail lanyards and 2 working at height harnesses and lanyards.
4.7 Carry out annual service to 8 inflatable lifejackets and provide certification for. (Crewsaver Seacrewsader 2010 275N).
4.8 Approved fire safety contractor to undertake annual inspection and test of the fire detection system.
4.9 Undertake test of rock 7 remote monitoring system sensors and confirm transmission to remote monitoring. (1x intruder, 1x smoke detector, 4x bilge).
4.10 Itemised certification for all the above to be provided.

5.0 DRIVE SHAFTS & COOPER BEARINGS

5.1 Cooper Bearings;

5.1.1 Conduct visual inspection of the 4 Off seal housings.
5.1.2 All retaining fixtures are to be checked for correct torque values.

5.2 Drive Shafts and couplings;

5.2.1 Inspection of the two drive shaft drive units.
5.2.2 Inspection of all couplings for cracking, chipping, damage to the corrosion prevention coating.
5.2.3 All retaining fittings are to be checked for correct torque values. (Carbon Shaft section M10 Allen bolts 40nm, all other fixings IAW supplied CENTRA installation manual).

6.0 BLACK WATER SYSTEM

6.1 Flush and disinfect the system.
6.2 Carry out a functional test of system, including level indication system identifying any leaks or issues to the overseer.

7.0 LOAD TESTING AND STRUCTURAL INSPECTION

7.1 Conduct an annual inspection of the anchor windlass structure security, anchor and anchoring equipment, providing a report on the findings.
7.2 Load test the anchor windlass to 1.2x the Safe Working Load (SWL) and provide certification (180KG Dynamic and 600kg static).
7.3 Undertake an annual inspection of the aft Sampson post mounting structure, check securing bolt tightness and provide a report on the findings. Load test to 2 tonnes.
7.4 Conduct an annual inspection of the fwd. securing post and mounting structure, providing a report on findings.

8.0 ELECTRICAL 240 AC & 24 DC

8.1 Carry out electrical system inspection, including conducting insulation tests on the following systems.

8.1.1 240-volt AC distribution.
8.1.2 24-volt DC distribution.
8.1.3 Shore power cable and connection system.
8.1.4 Undertake PAT testing on 15 items identified by the overseer.
8.1.5 Undertake battery capacity tests on all battery banks (Port, Stbd, emergency, Hamilton jet control and generator start battery).
8.1.6 Provide report with recommendations, test results and certification for all the above.

8.2 Carry out radiation test on the microwave oven and certify
8.3 The Onan 7MDKDL 240-volt AC alternator is to have:

8.3.1 800-hour service by an approved service agent (Full service, including all tasks up to and including 800 hr requirement IAW manufacturer's instructions).
8.3.2 Alternator winding, insulation test carried out.

9.0 FRESH WATER & BILGES

9.1 Open and inspect fresh water tanks, clean as necessary, carry out super chlorination process of the fresh water system, including holding tanks, pipework, taps etc, flush and conduct potable water biological test, including legionella test on galley tap, providing potable water certification on completion. (total tank capacity 274 Litres)

9.2 Check operation of bilge alarms / sounder and undertake functional test of all manual and electric bilge pumps. Written confirmation of test results to be provided.

9.3 Engine room located calorifier;

9.3.1 Carry out pressure test to 1.5 x the working pressure on the pressure vessel and provide certification.
9.3.2 Remove the safety valve, carry out a functional test and certify or replace with new certified valve. Provide certification.

10.0 NOVEC 1230 FIXED FIRE FIGHTING SYSTEM & FIRE PUMP

10.1 Approved fire safety contractor to carry out annual service of the fixed firefighting system, including;

10.1.1 Pressure check.
10.1.2 Liquid Level check.
10.1.3 Remote pressure monitoring indicator check.
10.1.4 System Inspection report and certification required on completion.
10.1.4 Functionally test and certify manual fire pump.

11.0 DOMETIC AIR CONDITIONING SYSTEM

11.1 Conduct an annual service on the Wheelhouse and Accommodation Air Conditioning units, including:
11.1.1 Remove and clean the return air filters, dry and replace.
11.1.2 Open up and clean the reversing valve, inspect and replace.
11.1.3 Electrically isolate the system, disconnect the inlet and outlet connections to the condenser coil and undertake a chemical clean of the condenser and saltwater pipework. Flush, reconnect and check for leaks on completion.
11.1.4 Reconnect the system and carry out both a heating and cooling function test on completion when the vessel is afloat, demonstrating correct functionality to the overseer.

12.0 EBERSHACER MODEL D4 AUTRONIC DIESEL OIL FIRED HEATER x2

12.1 An annual service is to be carried out on the 2 Ebershacer Model D4 oil fired diesel heaters by a qualified Ebershacer service agent. Report of service / certification to be provided on completion.

13.0 SHORE POWER

13.1 Provision and supply of 240-volt 50 Hz, single ph. shore power, for the LSA and maintenance period whilst the CPV is ashore and alongside being commissioned up until acceptance.

14.0 HM521 HAMILTON JET UNITS

14.1 Undertake a thorough inspection of the Hamilton water jet system and report the findings.
14.2 Undertake annual hydraulic pack oil and filter change. (BF supply oil and filters)
14.3 Undertake annual bearing oil change. (BF supply oil).
14.4 Supply and Replace all Hamilton jet anodes IAW the attached drawing. (Supplier to provide anodes).
14.5 Prepare and Antifoul jets with Trilux 33 (black). Allow approximately $7m^2$. (Supplier to provide paint).

15.0 HULL VALVES

15.1 The following stainless-steel main sea inlet valves are to be replaced with new ball valves to the same specification as existing and certification provided, or the existing valves removed, refurbished, tested to confirm watertight and free to move, certified and refitted;

15.1.1 2x 3” Ball valves main engine inlets.
15.1.2 1x 2” Ball valve Generator supply.

15.2 The following additional hull valves are to be tested watertight and free to move, including correct functioning of any remote operating device;

15.2.1 1x Air conditioning SW inlet valve.
15.2.2 1x Air conditioning SW discharge valve.
15.2.3 1x 2” Ball valve Black water discharge valve.
15.2.3 1x manual fire pump sea inlet valve.

15.3 The main sea chest cover plate where the 3” and 2” hull valves are mounted is to be removed, sea chest cleaned out, the seal and 4 internal anodes replaced. (Anodes listed at 1.6)

16.0. COMPASS SWING

16.1 Arrange for a compass swing to be undertaken at the end of the maintenance period and appropriate documentation supplied.

17.0 CERTIFICATES

17.1 All certificates and reports specified as required are to be provided in a hard copy folder to the vessel before departure and electronically emailed or supplied on a memory stick to the overseer. All certificate details should be indexed and ordered.

18.0 WARRANTY

18.1 All Work carried out by the Supplier during the period of this contract shall be covered by a one-year Warranty commencing from the date of acceptance back in to the custody of the Authority.

18.2 All new parts supplied or fitted during the period of this contract shall be covered by a one-year warranty or such other provided warranty if it is longer than the minimum one year commencing from the date of acceptance back in to the custody of the Authority

19.0 ACCEPTANCE & TRIALS

19.1 Any trials required shall be to prove that the executed work has been carried out satisfactorily and that the various 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.

19.2 Because of the specialist nature of the vessel, the Authority will provide a crew familiar with the navigational control and engineering systems of the CPV to undertake the trials.

UNIQUE DEFECTS FOR RECTIFICATION – CPV SPEEDWELL

1. The main drive shaft coupling protective coating as described at 5.2.2 and shown in the photograph below is breaking down and coming off on the stbd shaft aft mission space below the stairs. In the area where the coating is breaking down, the old coating is to be removed to sound material, surface prepared for re coating and new coating applied. Correct environmental conditions are required for application and curing. The work is to be undertaken with the shafts in situ. The shafts can be barred over manually from the jet space to reveal all surfaces. Coating specification Indasa MS Spray Sealant – Item Code 472675 grey. Estimate of compound usage ½ 290 ml tube per shaft section. Contractor to supply coating.

2. Aft JABSCO spotlight has limited movement in joystick control. Allow 2 hours of electrician's time to investigate and rectify or report.

3. Water ingress to engine room from area below fwd. engine room door. Leak test fwd. Engine room door and LED deck light fitting below to identify source of leak and rectify. Allow 4 hours of shipwright time.

4. Coolant in Onan 7kw generator is showing signs of biological contamination in tank (Black mould), tank to be removed and cleaned and cooling system to be flushed and refilled with approved Cummins coolant prior to undertaking service at 8.3.1.

NB: Defects to be costed, including provision of material where specified.

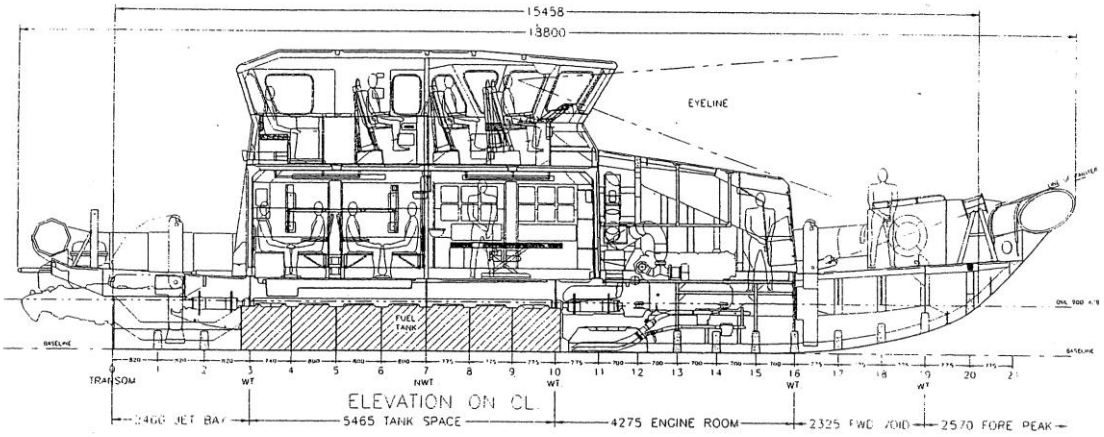
Speedwell defect 1. Shaft Protective coating.

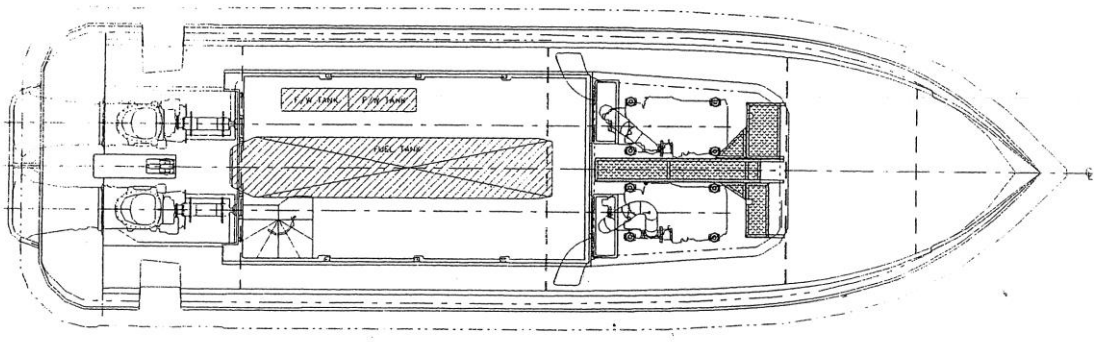
Annex C: Vessel Drawings

18.8m ARRC

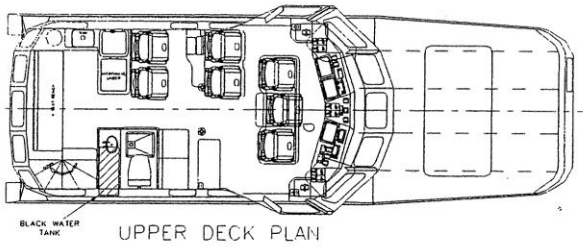
GENERAL ARRANGEMENT

Note: All longitudinal dimensions are about the AP (station 0)
All vertical dimensions are about the base line at the underside of keel (USK)
All draughts are measured from the base line (USK)

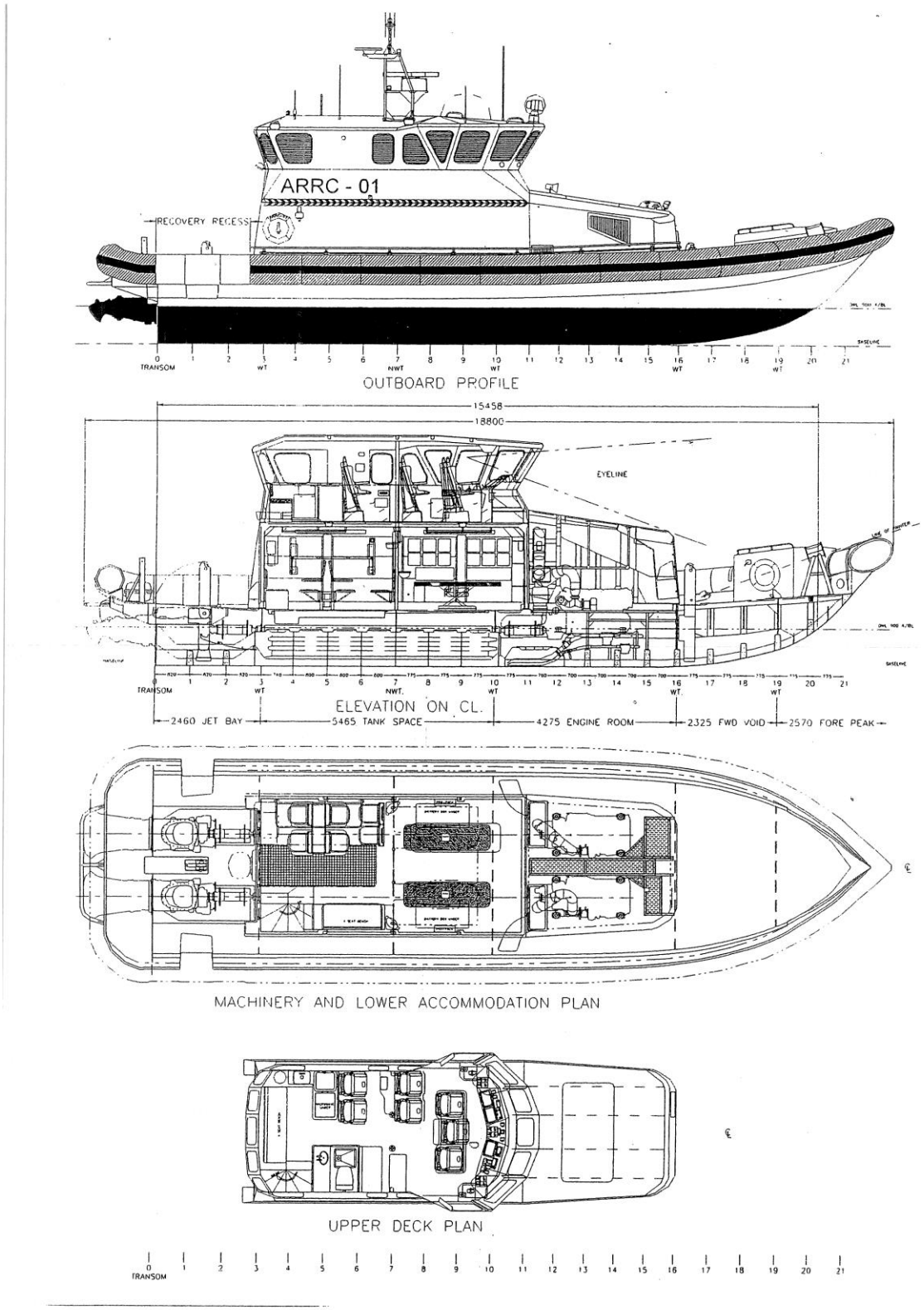




MACHINERY AND TANK ARRANGEMENT



UPPER DECK PLAN



Eight vessels in the class: no pennant number are visually assigned, the f.r.p. (fibre reinforced plastic) mouldings were fabricated by Holyhead Marine Services and were fitted out by Delta in 2005-6. They were built and surveyed in accordance with Lloyd's Rules for Special Service Craft to the classification □100 A1 SSC PATROL RIB HSC LDC G3 to report 10 status.

Annex D: Vessel Details

Name / Callsign	Name		MMSI	Callsign
	CPV EAGLE		235118128	2JQP8
	CPV NIMROD		235118129	2JQP9
	CPV ALERT		235118131	2JQQ2
	CPV ACTIVE		235118132	2JQQ3
	CPV HUNTER		235118133	2JQQ4
	CPV SPEEDWELL		235118134	2JQQ5
Length overall (LOA)	18.80 m including the Collar, waterjet and its guard			
Length Rigid Hull	16.75 m			
Length waterline (LWL)	15.49 m			
Beam Overall	5.60 m			
Beam Moulded Hull	5.22 m			
Draught aft full load	0.96 m			
Ht Overall USK to mast	7.42 m (approx.)			
Displacement	c31.1 tonne			
Construction	FRP (fibre reinforced plastic)			
Main Engines	Twin Caterpillar C18 Marine diesel engines, rated output 876 bhp / 644 kW @ 2,200 rpm each. (Total 1,752 bhp / 1,288 kW) Emergency rating 1,000 bhp (747 kW) @ 2,300 rpm			
Gearbox	ZF 550 reduction ratio 1.5:1			
Propulsion	Twin Hamilton HM 521A Waterjets			
Speeds	28 knots Cruising 34 knots emergency sprint speed in suitable seas			
Manoeuvrability	Manoeuvrability at all speeds is good			
Range / Endurance	(See Section 11: Fuel, Speed, Range.)			
Fuel	Design fuel load 3,424 litres. Max Fuel capacity 3,750 litres.			
Fuel Consumption	At Max rated power 195.6 litres / hour			
Fresh water	270 litres			
Black Water	71 litres			
Accommodation	4 berths FOC			
Domestic Arrgts	Small Galley, Combined shower and heads (Wheelhouse deck IOC Main Deck FOC)			
Crew Seating	5 Wheelhouse seats			
Mission Space	IOC. An open compartment accessed from the main deck level provides non-formatted mission space to accommodate up to 23 persons in addition to the crew. FOC separate compartment containing 4 x Bunk accommodation in Fwd. section of mission space.			

Annex E: Handover Document

Name of vessel ……

This Handover to Supplier Certificate is to be duly signed by a representative of the Authority and the Supplier upon the commencement of the contract for Planned Maintenance & Safety Equipment Recertification.

Immediately upon signing this Handover Certificate by the Supplier, the responsibility and safe custody of CPV …….. is accepted by the Supplier and the responsibility and safe custody will thereafter remain at all times with the Supplier until completion of the contract and an Acceptance Certificate duly signed by the Authority and the Supplier representative.

Statement of Condition by the Authority

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

Annex F: Acceptance Document

PART 1: to be completed by Supplier	
Vessel Name…… CPV …….. has completed its Planned Maintenance & LSA with the exception of any items noted below as outstanding items. All tests and trials required have been successfully completed and all documentation / certification required under the Authority's Contract has been provided. I confirm the vessel is in a seaworthy condition and is this day offered for acceptance by the Border Force overseer.	
Signed: …… • **Print Name** • _……	**For and on Behalf of the Supplier** …… **Date:** ……
PART 2: to be completed by The Authority	
By Vessel Commander: I attended basin and sea trials of CPV …….. and have satisfied myself that all systems, machinery and equipment are working satisfactorily. I have inspected the CPV and consider she is in a condition suitable for return to operational service. Outstanding items are noted as attached.	
Signed: ……	**Print Name / Post** ……
By Border Force Overseeing Officer: CPV ……..having completed its Planned Maintenance & LSA Package to the satisfaction of the Authority and having completed all trials and documentation required under the Contract is hereby accepted at ……..... hours.	
Signed: …… **Print Name:** ……...	**Border Force Overseeing Officer** **Date:** …….
Last Emergent Work Authorisation Issued was:	**EM** ……..
Outstanding Items Any outstanding items are to be noted, appended to this form and signed by both the Supplier and the Authority. Dates when these outstanding items are to be "completed by" are to be agreed and shown.	
Distribution Original - Retained by the Supplier Copies to - Border Force Overseeing Officer; and CPV Cdr.	

Annex G: Reimbursable Expenses

The Supplier may claim the following Reimbursable Expenses at the rates set out below:

1. **Travel**

Standard rate of allowance for private cars

Initial 10,000 miles	40p per mile
Additional miles over the initial 10,000	25p per mile
Public transport rate	23.8p per mile

2. **Hotel rates**

London	£125 per night
All other locations other than London	£90 per night

Annex H: 19m GRP Patrol Boat tech 110416. CPV Paint Scheme

Document supplied separately

Annex I: CPV Anodes, Cathode Protection and bonding.

Document supplied separately

Annex J: Jet anodes 521

Document supplied separately

Annex K: Carbon Centre Disc Assembly & Operation M034-0003-EN

Document supplied separately

Annex L: Cummins Onan Service

Document supplied separately