
TRANSNET SOC LTD

TENDER NUMBER: TNPA/2022/01/0062/RFP

ADDENDUM NO. 1

DATED: 24 June 2022

The following information is furnished in addition to, in amplification and substitution of, matters contained in the tender documents issued in respect of the abovementioned work.

1. Cover Page

The initial Cover Page is superseded and replaced with the revised Cover Page

- Tender Closing date: Moved from 01 July 2022 to 16:00hrs **22 July 2022**

2. T1.1 Tender Notice and Invitation to tender

The initial Tender Notice and Invitation to tender is superseded and replaced with the revised Tender Notice and Invitation to tender.

- Tender Closing date: Moved from 01 July 2022 to **16:00hrs 22 July 2022**.
- Addition of clause 4.12:

"Transnet reserves the right to perform a risk analysis on the preferred tenderer to ascertain if any of the following might present an unacceptable commercial risk to the employer:

- *unduly high or unduly low tendered rates or amounts in the tender offer;*
- *contract data of contract provided by the tenderer; or*
- *the contents of the tender returnables which are to be included in the contract*".

3. C2.2 The bill of quantities

The initial *bill of quantities* is superseded and replaced with the revised *bill of quantities*.

- Division of the *bill of quantities* per boat i.e Gannet, Inyoni, Petrel and Ballito.
- Addition of item 32.1.7 "*Contractor to book docking facility and make provision to complete works as specified*", for all pilot boats *bill of quantities*.

This addendum must be signed and submitted with your tender.

WITNESSES:

1. _____
_____ **TENDERER / CONTRACTOR**

2. _____

Date: _____

WITNESSES:

1.  _____
_____ **TRANSNET SOC LTD**

2.  _____

Date: 24 June 2022

FROM: _____

DATE: _____

TO: Transnet National Ports Authority
N2 Neptune Road, Off Klub Road
Port of Ngqura
eMendi Admin Building
(Attention Ms Qetelo Mpanza - EMAIL: Qetelo.Mpanza@transnet.net)

Dear Sir / Madam

TENDER NUMBER TNPA/2022/01/0062/RFP: RESTORATION AND COMISSIONING OF
FOUR (4) PILOT BOATS (BALLITO, INYONI, GARNET & PETREL) AT VARIOUS PORTS

Receipt of **Addendum No. 1** dated **24 June 2022** is hereby acknowledged.

Kind regards

TENDERER

NOTE: This acknowledgement must be signed and emailed to this office on or before closing date of tender.

Ref: TNPA/2022/01/0062/RFP

Transnet National Ports Authority

an Operating Division of **TRANSNET SOC LTD**

[Registration Number 1990/000900/30]

REQUEST FOR PROPOSAL (RFP)

**FOR THE: RESTORATION AND COMMISSIONING OF FOUR (4) PILOT BOATS
(BALLITO, INYONI, GARNET & PETREL) AT VARIOUS PORTS**

RFP NUMBER	: TNPA/2022/01/0062/RFP
ISSUE DATE	: 24 MAY 2022
COMPULSORY BRIEFING	: 13 JUNE 2022
CLOSING DATE	: 22 JULY 2022
CLOSING TIME	: 16:00 hrs
TENDER VALIDITY PERIOD	: 12 weeks from closing date

Contents

Number	Heading
---------------	----------------

The Tender

Part T1: Tendering Procedures

- | | |
|------|--|
| T1.1 | Tender Notice and Invitation to Tender |
| T1.2 | Tender Data |

Part T2: Returnable Documents

- | | |
|------|-----------------------------|
| T2.1 | List of Returnable Document |
| T2.2 | Returnable Schedules |

The Contract

Part C1: Agreements and Contract Data

- | | |
|------|------------------------------|
| C1.1 | Form of Offer and Acceptance |
| C1.2 | Contract Data (Parts 1 & 2) |

Part C2: Pricing Data

- | | |
|------|----------------------|
| C2.1 | Pricing Instructions |
| C2.2 | Pricing Schedule |

Part C3: Scope of Services

- | | |
|------|-------------------|
| C3.1 | Scope of Services |
|------|-------------------|

T1.1 TENDER NOTICE AND INVITATION TO TENDER

SECTION 1: NOTICE TO TENDERERS

1. INVITATION TO TENDER

Responses to this Tender [hereinafter referred to as a **Tender**] are requested from persons, companies, close corporations or enterprises [hereinafter referred to as a Tenderer].

DESCRIPTION	Restoration and Commissioning of Four Pilot Boats (Ballito, Inyoni, Garnet & Petrel) at various Ports
TENDER DOWNLOADING	This Tender may be downloaded directly from the National Treasury eTender Publication Portal at www.etenders.gov.za FREE OF CHARGE.

COMPULSORY TENDER CLARIFICATION MEETING	A Compulsory Tender Clarification Meeting will be conducted at Transnet National Ports Authority (TNPA) Jetty 1, V&A Waterfront, Victoria Basin Cape Town, 8001 on the 13th June 2022 at 10:00am [10 O'clock] for a period of ± 2 (two) hours. [Tenderers to provide own transportation and accommodation]. The Compulsory Tender Clarification Meeting will start punctually and information will not be repeated for the benefit of Tenderers arriving late. A Site visit/walk will take place, tenderers are to note: •Tenderers are required to wear safety shoes, goggles, long sleeve shirts, high visibility vests and hard hats. •Tenderers without the recommended PPE will not be allowed on the site walk. •Tenderers and their employees, visitors, clients and customers entering Transnet Offices, Depots, Workshops and Stores will have to undergo breathalyser testing. •All forms of firearms are prohibited on Transnet properties and premises. •The relevant persons attending the meeting must ensure that their identity documents, passports or drivers licences are on them for inspection at the access control gates. Certificate of Attendance in the form set out in the Returnable Schedule T2.2-01 hereto must be completed and submitted with your Tender as proof of attendance is required for a compulsory site meeting and/or tender briefing.
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	Tenderers are required to bring this Returnable Schedule T2.2-01 to the Compulsory Tender Clarification Meeting to be signed by the Employer's Representative. Tenderers failing to attend the compulsory tender briefing will be disqualified.
CLOSING DATE	16:00hrs Friday, 22nd July 2022 Tenderers must ensure that tenders are uploaded timeously onto the system. If a tender is late, it will not be accepted for consideration.

2. TENDER SUBMISSION

Transnet has implemented a new electronic tender submission system, the e-Tender Submission Portal, in line with the overall Transnet digitalization strategy where suppliers can view advertised tenders, register their information, log their intent to respond to bids and upload their bid proposals/responses on to the system.

a) The Transnet e-Tender Submission Portal can be accessed as follows:

- Log on to the Transnet eTenders management platform website (<https://www.transnet.net>);
- Click on "TENDERS";
- Scroll towards the bottom right hand side of the page;
- On the blue window click on "register on our new eTender Portal";
- Click on "ADVERTISED TENDERS" to view advertised tenders;
- Click on "SIGN IN/REGISTER – for bidder to register their information (must fill in all mandatory information);
- Click on "SIGN IN/REGISTER" - to sign in if already registered;
- Toggle the "Log an Intent" button to submit a bid;
- Submit bid documents by uploading them into the system against each tender selected.

b) The tender offers to this tender will be opened as soon as possible after the closing date and time. Transnet shall not, at the opening of tenders, disclose to any other company any confidential details pertaining to the Tender Offers / information received, i.e. pricing, delivery, etc. The names and locations of the Tenderers will be divulged to other Tenderers upon request.

c) Submissions must not contain documents relating to any Tender other than that shown on the submission.

3. CONFIDENTIALITY

All information related to this RFP is to be treated with strict confidentiality. In this regard Tenderers are required to certify that they have acquainted themselves with the Non-Disclosure Agreement. All information related to a subsequent contract, both during and after completion thereof, will be treated with strict confidence. Should the need however arise to divulge any information gleaned from provision of the Works, which is either directly or indirectly related to Transnet's business, written approval to divulge such information must be obtained from Transnet.

4. DISCLAIMERS

Tenderers are hereby advised that Transnet is not committed to any course of action as a result of its issuance of this Tender and/or its receipt of a tender offer. In particular, please note that Transnet reserves the right to:

- 4.1. Award the business to the highest scoring Tenderer/s unless objective criteria justify the award to another tenderer.
- 4.2. Not necessarily accept the lowest priced tender or an alternative Tender;
- 4.3. Go to the open market if the quoted rates (for award of work) are deemed unreasonable;
- 4.4. Should the Tenderers be awarded business on strength of information furnished by the Tenderer, which after conclusion of the contract is proved to have been incorrect, Transnet reserves the right to terminate the contract;
- 4.5. Request audited financial statements or any other documentation for the purposes of a due diligence exercise;
- 4.6. Not accept any changes or purported changes by the Tenderer to the tender rates after the closing date;
- 4.7. Verify any information supplied by a Tenderer by submitting a tender, the Tenderer/s hereby irrevocably grant the necessary consent to the Transnet to do so;
- 4.8. Conduct the evaluation process in parallel. The evaluation of Tenderers at any given stage must therefore not be interpreted to mean that Tenderers have necessarily passed any previous stage(s);
- 4.9. Unless otherwise expressly stated, each tender lodged in response to the invitation to tender shall be deemed to be an offer by the Tenderer. The Employer has the right in its sole and unfettered discretion not to accept any offer.

- 4.10. Not be held liable if tenderers do not provide the correct contact details during the clarification session and do not receive the latest information regarding this RFP with the possible consequence of being disadvantaged or disqualified as a result thereof.
- 4.11. Transnet reserves the right to exclude any Tenderers from the tender process who has been convicted of a serious breach of law during the preceding 5 [five] years including but not limited to breaches of the Competition Act 89 of 1998, as amended. Tenderers are required to indicate in tender returnable [clause 12 on T2.2-14], [**Breach of Law**] whether or not they have been found guilty of a serious breach of law during the past 5 [five] years.
- 4.12. Transnet reserves the right to perform a risk analysis on the preferred tenderer to ascertain if any of the following might present an unacceptable commercial risk to the employer:
- *unduly high or unduly low tendered rates or amounts in the tender offer;*
 - *contract data of contract provided by the tenderer; or*
 - *the contents of the tender returnables which are to be included in the contract.*

5. Transnet will not reimburse any Tenderer for any preparatory costs or other work performed in connection with this Tender, whether or not the Tenderer is awarded a contract.

6. NATIONAL TREASURY'S CENTRAL SUPPLIER DATABASE

Tenderers are required to self-register on National Treasury's Central Supplier Database (CSD) which has been established to centrally administer supplier information for all organs of state and facilitate the verification of certain key supplier information. The CSD can be accessed at <https://secure.csd.gov.za/>. Tenderers are required to provide the following to Transnet in order to enable it to verify information on the CSD:

Supplier Number..... and Unique registration reference number.....(**Tender Data**)

**Transnet urges its clients, suppliers and the general public
to report any fraud or corruption to
TIP-OFFS ANONYMOUS: 0800 003 056 OR Transnet@tip-offs.com**

PART 2: PRICING DATA

Document reference	Title	No of pages
C2.1	Pricing instructions: Option B	5
C2.2	The <i>bill of quantities</i>	140

C2.1 Pricing instructions: Option B

1. The *conditions of contract*

1.1. How the contract prices work and assesses it for progress payments

Clause 11 in NEC3 Engineering and Construction Contract, June 2005 and 2013 (ECC) Option B states:

Identified and defined terms	11	
	11.2	(21) The Bill of Quantities is the <i>bill of quantities</i> as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration. (22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events. (28) The Price for Work Done to Date is the total of - the quantity of the work which the <i>Contractor</i> has completed for each item in the Bill of Quantities multiplied by the rate and - a proportion of each lump sum which is the proportion of the work covered by the item which the <i>Contractor</i> has completed. Completed work is work without Defects which would either delay or be covered by immediately following work. (31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

1.2. Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that instructions to do work or how it is to be done are not included in the Bill, but in the Works Information. This is further confirmed by Clause 20.1 which states, "The *Contractor* Provides the Works in accordance with the Works Information". Hence the *Contractor* does **not** Provide the Works in accordance with the Bill of Quantities. The Bill of Quantities is only a pricing document.

1.3. Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract (June 2005) Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

Historically bill of quantities based contracts in South Africa have been influenced by the different approaches of the civil engineering and building sectors of the industry through their respective discipline based standard forms of contract and methods of measurement. This is particularly apparent in the approach to the Preliminary and General bill. On the other hand, because ECC caters for a number of disciplines in the same contract, including electrical works, a different approach not currently found in local methods of measurement to the Preliminary & General bill items may have been used.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill.

2. Measurement and payment

2.1. Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m ²	square metre
m ² -pass	square metre pass
m ³	cubic metre
m ³ -km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre

MPa	megapascal
No.	number
Prov sum ¹	provisional sum
PC-sum	prime cost sum
R/only	Rate only
sum	Lump sum
t	ton (1000kg)
W/day	Work day

2.2. General assumptions

- 2.2.1. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.
- 2.2.2. The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.
- 2.2.3. Clause 63.13 in Option B provides that these rates and Prices may be used as a basis for assessment of compensation events instead of Defined Cost.
- 2.2.4. Where this contract requires detailed drawings, designs or other information to be provided, and no rates or prices are included in the *bill* specifically for such matters, then the *Contractor* is deemed to have allowed for all costs associated with such requirements within the tendered rates and Prices in the Bill of Quantities.

¹ Provisional Sums should not be used unless absolutely unavoidable. Rather include specifications and associated bill items for the most likely scope of work, and then change later using the compensation event procedure if necessary. This is because tenderers cannot programme effectively for unknown scopes of work

- 2.2.5. An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*. If a number of items are grouped together for pricing purposes, this will be treated as a single lump sum.
- 2.2.6. The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due and not the quantities given in the Bill of Quantities.
- 2.2.7. The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. More detail regarding the extent of the work entailed under each item is provided in the Works Information.

2.3. Departures from the *method of measurement*

2.4. Amplification of or assumptions about measurement items

For the avoidance of doubt the following is provided to assist in the interpretation of descriptions given in the *method of measurement*. In the event of any ambiguity or inconsistency between the statements in the *method of measurement* and this section, the interpretation given in this section shall be used.

C2.2 The *bill of quantities*

Bill 01

PILOT BOAT GANNET

ITEM	SUB ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1		EXTERNAL HULL CLEANING				
	1.1	HULL CLEANING				
	1.1.1	Scrape and high pressure water wash hull exterior. Clean dock and dispose of the barnacles. All high pressure washing to be done with suitable equipment of minimum 220 bar pressure	m ²	305		
	1.2	HULL GRIT BLASTING NOTE: All windows to be securely covered with hardboard before grit blasting	m ²	305		
	1.2.1	(SA1 = Will remove lifting rust and paint. 1 nozzle/hour = 15 m ²) (SA2.0 = Down to bare metal over 80% of hull). (SA2.5 = At least 95% of the surface shall be clean bare steel with at least 90% of any 25mm square clean bare steel. 1 nozzle/hour = 7 m ²). All grit blasting to be conducted in conjunction with the appointed	m ²	305		

		paint representative. This will include the decision as to whether to carry out a SA1.0 or SA2.5 grit blast. Contractors will be responsible for the cleaning and removal of all spent grit from dry-dock and the legal disposal of such.				
	1.2.2	Light wet sweep blasting to SA 1 to be carried out on hull [It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]	m ²	305		
2		EXTERNAL SUPERSTRUCTURE CLEANING				
	2.1	Wet spot grit blasting to SA 1 to be carried out on superstructure, including masts, hook, windlass and other fixtures. <i>It may be necessary to blast certain areas to SA 2.5, allow 15% for this</i> [Contractors to ensure all glass areas are covered and protected against damage from shot blast] [Contractors to supply own certified scaffolding if required][Copies of safety Certificates of any safety equipment to be available to the vessel for the duration of the dry-dock, this includes scaffolding, safety harness etc.] Water wash all sand blasted areas to remove all grit before painting	m ²	80		

3		MAIN DECK AND MONKEY ISLAND CLEANING				
	3.1	Wet spot grit blasting to SA 1 to be carried out on main deck, monkey island deck.[It may be necessary to blast certain areas to SA2.5, allow 15% for this] <i>[Contractors to ensure all glass areas are covered and protected against damage from shot blast] [Contractors to supply own certified scaffolding if required][Copies of safety Certificates of any safety equipment to be available to the vessel for the duration of the dry-dock, this includes scaffolding, safety harness etc.] Water wash all sand blasted areas to remove all grit before painting</i>	m ²	166		
4		SEA CHESTS AND GRIDS				
	4.1	Remove ships intake grids (two in number).	EA	2		
	4.2	Mark grids for easy installation	EA	2		
	4.3	Scrape and high pressure wash inside sea chests and sea chest grids.	EA	2		
	4.4	Damaged Intake Grid bolts and threads to be repaired and/or replaced. Broken bolt threads too be removed from holes. <i>[Bolts are stainless steel]</i>	EA	10		

	4.5	Spray paint inside sea chests and grids as per hull specifications	m ²	50		
	4.6	Remove anodes and replace anodes inside sea chests after painting [Ref : Hull painting]	EA	2		
	4.7	Replace grids upon completion of painting [Ref : Hull painting]	EA	2		
	4.8	All sea chest grid bolts to be rewired with stainless steel wire [Wire to be supplied by CONTRACTOR]	ROLLS	2		
5		HULL PAINTING [On Completion of blasting and mechanically cleaning] NOTE: Paint specs requirements might change by paint specialist. Painters to follow specialist advise.				
	5.1	Apply a coat primer paint as per appointed paint representative's instructions to hull exterior, including underwater and side areas, sea chests, and hawser pipes.	m ²	305		
	5.2	Apply a coat key paint as per appointed paint representative's instructions to hull exterior, including underwater, sea chests, and hawser pipes.	m ²	305		
	5.3	Apply first anti-fouling paint as per appointed paint representative's instructions to	m ²	305		

		hull exterior up to and including the waterline. To include underwater and side areas, sea chests, hawser pipes.				
	5.4	Apply second anti-fouling paint as per appointed paint representative's instructions to hull exterior up to and including the waterline. To include underwater and side areas, sea chests, hawser pipes.	m ²	305		
6		ABOVE WATER LINE PAINTING				
	6.1	Apply a coat primer paint as per appointed paint representative's instructions to hull exterior above waterline.	m ²	166		
	6.2	Apply coat [black] as per appointed paint representative's instructions to hull exterior above waterline. To include hawser pipes.	m ²	166		
	6.3	Paint vessel names, port of registration and draft marks In white. Port and stb'd side	SUM	1		
7		SUPERSTRUCTURE PAINTING				
	7.1	Apply primer coat to prepared exposed areas on superstructure and all decks as per appointed paint representative's instructions.	m ²	200		

	7.2	Apply final coat [white] as per appointed paint representatives instructions to complete superstructure, including mast.	m ²	200		
8		MAIN DECK AND MONKEY ISLAND PAINTING				
	8.1	Apply primer coat to prepared exposed areas all decks as per appointed paint representative's instructions	m ²	170		
	8.2	Apply coat deck green as per appointed paint representative's instructions to all decks.	m ²	170		
	8.3	Paint all decks with final coat green paint as per manufacturer's specification and put non-slip sand on decks.	m ²	166		
	8.4	Light wet sweep blasting to SA 1 to be carried out on hull <i>[It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]</i>	M2	166		
9		DECK AUXILLIARY EQUIPMENT PAINTING				
	9.1	Apply primer coat to prepared exposed areas on all deck auxiliary equipment as per appointed paint representative's instructions.	M2	305		

	9.2	Paint all deck auxiliary equipment such as winches, anchor windlass and fit denzo tape on metal fittings.(established on site briefing)	M2	305		
	9.3	Light wet sweep blasting to SA 1 to be carried out on hull. <i>[It may be necessary to spot blast certain areas to SA 2.5, allow 15% for this]</i>	M2	305		
	9.4	Contractor to overhaul and or refurbish and commission the existing capstan	SUM	1		
10		ANODES				
	10.1	All old anodes to be removed from hull, sea chests and rudder stocks before shot blasting and returned to vessel.	ea	18		
	10.2	All studs and threads to be cleaned <i>[16mm die nut]</i> and protected before shot blasting and painting commences. <i>(Suggest using garden hose pipe or strong tape to protect studs 16mm ID)</i>	ea	20		
	10.3	Broken or damaged anode studs to be replaced <i>[16mm]. Contractor to make provision</i>	ea			
	10.4	Replace new anodes in sea chest, on hull and rudder stocks on completion of	ea	18		

		painting. <i>[Owner to supply anodes, washers and nuts]</i>				
11		ANCHORS AND CHAIN				
	11.1	Lower anchors and range chains for SAMSA survey	ea	2		
	11.2	Wet grit blast anchors and chains.	ea	2		
	11.3	Contractor to make provision for a new chain	ea	2		
	11.3	Prime and Paint anchors	ea	2		
	11.4	Paint markings on chain.	ea	2		
	11.5	Coat chains with boiled linseed oil or equivalent.	ea	2		
	11.6	Contractor to make provision for a replacement with new or full-length anchor chain	ea	2		
12		TANKS				
		Contractors to open and reseal tanks using new neoprene or Vellumoid jointing. Contractors to ensure that all tanks have a valid gas free certificate before entering. All tanks to be verified gas free on daily basis. Contractors to supply own ventilation fans. Any contractors not following safe working practices will be stopped from working. Tank plugs to be removed by ships staff. Low voltage lights to be used in the tanks and				

		intrinsically safe tools to be used in the tanks. Rules for entering confined spaces to be adhered to				
	12.1	<i>FRESH WATER TANKS [Port and Starboard]</i>	m ³	2.3		
	12.1.1	Fresh water tanks to be emptied.	m ³	2.3		
	12.1.2	Fresh water tanks – manhole covers to be removed	SUM	1		
	12.1.3	Fresh Water Tanks - All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.1.4	Fresh water tanks cover mating surfaces to be mechanically cleaned and prepared.	SUM	1		
	12.1.5	New Neoprene jointing to be supplied for tank covers	SUM	1		
	12.1.6	Gas free certificate to be issued for entry into Fresh Water Tank	SUM	1		
	12.1.7	Fresh water tank to be high pressure water washed. Water to be removed and tanks dried.	SUM	1		
	12.1.8	Fresh water tank to be degreased and mechanically cleaned for inspection.	SUM	1		
	12.1.9	Fresh water tanks to be inspected by ships staff and by Appointed Paint Representative	SUM	1		

	12.1.10	On approval fresh water tank to be painted as per Appointed Paint Representative. <i>[Allow 20% coverage for quotation purposes]</i>	SUM	1		
	12.1.11	Final inspection by ships staff before tank covers are replaced.	SUM	1		
	12.1.12	Fresh water tank covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.1.13	Paint all tanks with final coat as per paint manufacturer's specification	SUM	1		
	12.1.14	Light wet sweep blasting to SA 1 to be carried out on hull <i>[It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]</i>	SUM	1		
	12.1.15	Apply primer coat to prepared exposed areas on all as per appointed paint representative's instructions.	SUM	1		
	12.2	<i>FUEL TANKS: NOTE:</i> <i>Contractor to pump out fuel and provide storage facility ± 10M³</i>				
	12.2.1	Fuel day tank-Port day tank	m³	1.3		
	12.2.2	Fuel day tank-Starboard day tank	m³	1.3		

	12.2.3	Fuel Oil double bottom fuel tank -No 4	m ³	4.6		
	12.2.4	Fuel Oil double bottom fuel tank -No 6	m ³	6.7		
	12.2.5	Fuel Oil double bottom fuel tank -No 7	m ³	6.7		
	12.2.6	Contractor to make provision and or install flow meter gauges on both Port & STB day tanks	m ³	10		
	12.2.7	Fuel tanks covers to be removed/opened	EA	5		
	12.2.8	Fuel Tanks to be opened	Sum	1		
	12.2.9	Fuel Tanks All studs, nuts and bolts to be cleaned and buffed.	Sum	1		
	12.2.10	Fuel Tanks covers mating surfaces to be mechanically cleaned and prepared.	Sum	1		
	12.2.11	New oil resistant Vellumoid jointing to be supplied for Fuel Tanks covers.	Sum	1		
	12.2.12	Gas free certificate to be issued for before entry into Fuel Tanks	Sum	1		
	12.2.13	Fuel Tanks All studs, nuts and bolts to be cleaned and buffed.	Sum	1		
	12.2.14	Fuel Tanks covers mating surfaces to be mechanically cleaned and prepared.	Sum	1		

	12.2.15	New oil resistant Vellumoid jointing to be supplied for Fuel Tanks covers.	Sum	1		
	12.2.16	Gas free certificate to be issued for before entry into Fuel Tanks	Sum	1		
	12.2.17	Fuel Tank to be cleaned for SAMSA inspection	Sum	1		
	12.2.18	Fuel Tank to be inspected by ships staff	Sum	1		
	12.2.19	Fuel Tank inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	Sum	1		
	12.2.20	Final inspection by ships staff before covers are replaced.	Sum	1		
	12.2.21	Fuel Double Bottom and day Tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	Sum	1		
12.3		Grey /black water tank Contractor to pump out grey/black water and provide disposal facility ± 2M³ and dispose of grey/black water and provide disposal certificate.				
	12.3.1	Grey/black water tanks to be emptied.	M3	1.83		
	12.3.2	Remove all pipe work to open tank	SUM	1		
	12.3.3	Grey/black water tanks covers to be removed	SUM	1		

	12.3.4	Grey/black water tanks All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.3.5	Gas free certificate to be issued for before entry into grey/black water tank	SUM	1		
	12.3.6	Grey/black water tanks to be cleaned for SAMSA inspection	SUM	1		
	12.3.7	Grey/black water tanks to be inspected by ships staff	SUM	1		
	12.3.8	Grey/black water tanks inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	SUM	1		
	12.3.9	Final inspection by ships staff before covers are replaced.	SUM	1		
	12.3.10	Grey/black water tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.3.11	Grey/black water tanks replace neoprene gasket	SUM	1		
	12.3.12	Grey/black water tanks replace all pipe work on completion	SUM	1		
12.4		DIRTY OIL TANK Contractor to pump out Dirty oil tank and provide disposal facility ± 2M³ and dispose of dirty oil and provide disposal certificate.	M³	1.265		

	12.4.1	Dirty oil tanks to be emptied.	SUM	1		
	12.4.2	Remove all pipe work to open tank	SUM	1		
	12.4.3	Dirty oil tanks covers to be removed	SUM	1		
	12.4.4	Dirty oil tanks all studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.4.5	Gas free certificate to be issued for before entry into oily water tank	SUM	1		
	12.4.6	Dirty oil tanks to be cleaned for SAMSA inspection	SUM	1		
	12.4.7	Dirty oil tanks to be inspected by ships staff	SUM	1		
	12.4.8	Dirty oil tanks inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	SUM	1		
	12.4.9	Final inspection by ships staff before covers are replaced.	SUM	1		
	12.4.10	Dirty oil tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.4.11	Dirty oil tanks replace neoprene gasket	SUM	1		
	12.4.12	Dirty oil tanks replace all pipe work on completion	SUM	1		

13		PROPULSION				
	13.1	Propellers to be cleaned and polished	ea	2		
	13.2	Shaft clearance to be taken before shafts are drawn. Report to be submitted for SAMSA survey	ea	2		
	13.3	Propeller shafts to be drawn	ea	2		
	13.4	Shafts straightness tests to be done in contractor workshop	ea	2		
	13.5	Non Destructive testing to check for cracks.	ea	2		
	13.6	Shaft measurements to be taken. Report to be submitted for SAMSA survey	ea	2		
	13.7	Blueing of the shaft and the propeller to be done and inspected by CMEQ and SAMSA surveyor	ea	2		
	13.8	Blueing of the shaft and the coupling to be done and inspected by CMEQ and SAMSA surveyor	ea	2		
	13.9	Cutless bearing measurements to be taken when shafts are drawn	ea	2		
	13.10	Cutless bearings to be replaced with new Vesconite machined bearings	ea	2		

	13.11	When the shaft is assembled, stern tubes seals and white metal bearings to be fitted, specification will be provided by the owner. Contractor to supply new stern tube seals	ea	4		
	13.12	Contractor to check for leaks on Stern Tubes after seals are fitted and system filled with oil	ea	4		
14		SHIPS VALVES				
	14.1	<i>Valves to be dismantled for SAMSA inspection and refurbished. Machine, lapin/machine valve and seats as required. New jointing and packing to be used. Jointing between valve and ships side/sea chest to be renewed after cleaning flanges. Stainless steel bolts and nuts to be used where mild steel are found. All valve and strainer insides to paint with Apexior 3 or equivalent. All valve openings to exterior to be blanked off to stop ingress of shot blast and paint. All mating surfaces, studs and nuts to be examined for signs of corrosion.</i>				
	14.1.1	Port sea water inlet valve to strainer (butterfly valve) (DN 200)	ea	1		
	14.1.2	Stb'd sea water inlet valve to strainer (butterfly valve) (DN 200)	ea	1		

	14.1.3	<i>Water manifold need to be removed to get to the sea chest valves, pipe work and other valves</i>	EA	2		
	14.1.4	Remove sea valves in entirety	EA	15		
	14.1.5	All openings to be blanked off to stop ingress of shot blast/paint	EA	15		
	14.1.6	Valve/sea chest mating surfaces to be cleaned, prepared and inspected for damage and/or corrosion.	EA	15		
	14.1.7	All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	14.1.8	Sea chest tops to be degreased, mechanically cleaned and painted with a suitable primer paint with a corrosion inhibitor and final top coat	SUM	1		
	14.1.9	Dismantle and refurbish valves, including cleaning and painting, lapping-in valve seats/disks or machining same where necessary.	SUM	1		
	14.1.10	Valve parts too inspected by vessel CME before assembly. Valve bodies, valve spindles, valve disks and seats to be inspected for damage and all valve spindle threads checked. Condition of gland followers and gland studs to be inspected. [Confirm with SAMSA surveyor if he wants a visual inspection of valves before assembly and value/time of pressure test.	SUM	1		

	14.1.11	Reassemble all valves with new joints and new gland packing.	EA	15		
	14.1.12	Pressure test all sea valves on the gland side to 2 bar for a minimum 5 minutes. CMEQ to witness tests. <i>[Valves should be closed by hand and then "nipped up" for the pressure test. Over tightened valves will not be accepted]</i>	SUM	1		
	14.1.13	On satisfactory completion of pressure test, valves to be presented to SAMSA surveyor for inspection. <i>[Should any valves fail SAMSA inspection, further SAMSA costs to be borne by contractor]</i>	SUM	1		
	14.1.14	Refit valves using new KLINGER jointing and stainless steel nuts and bolts.	SUM	1		
	14.1.15	Report for valves to be submitted for record purposes	SUM	1		
15.0		VALVES				
	15.1	OVERBOARD VALVES				
	15.1.1	Overboard Fire line valve (65mm) SDNR Globe valve	ea	1		
	15.1.2	Bilge Overboard Valve (40mm) SDNR Globe valve	ea	1		
	15.1.3	Black Water and Grey water overboard valve(40mm) SDNR Globe valve	ea	1		

	15.1.4	Port main engine sea water overboard valve(65mm) SDNR Globe valve	ea	1		
	15.1.5	Stb'd main engine sea water overboard valve(65mm) SDNR Globe valve	ea	1		
	15.1.6	Port generator sea water overboard valve(32mm) SDNR Globe valve	ea	1		
	15.1.7	Stb'd generator sea water overboard valve(32mm) SDNR Globe valve	ea	1		
	15.1.7	Oily water separator overboard valve(25mm) SDNR Globe valve	ea	1		
	15.1.8	Chain locker overboard valve (40mm) SDNR Globe valve	ea	1		
	15.1.9	Port Generator overboard valve NRN(DN100)	ea	1		
	15.1.10	Starboard Generator overboard valve NRN(DN100)	ea	1		
	15.1.11	Remove overboard valves in entirety	SUM	1		
	15.1.12	All openings to be blanked off to stop ingress of shot blast/paint	SUM	1		
	15.1.13	Valve/hull mating surfaces to be cleaned, prepared and inspected for damage and/or corrosion.	SUM	1		
	15.1.14	All studs, nuts and bolts to be cleaned and buffed.	SUM	1		

	15.1.15	Dismantle and Refurbish valves, including cleaning and painting, lapping-in valve seats/disks or machining same where necessary. Rubber to be renewed on non-return flap valves.	SUM	1		
	15.1.16	Valve parts to be inspected by TNPA representative before assembly. Valve bodies, valve spindles, valve disks and seats to be inspected for damage and all valve spindle threads checked. Condition of gland followers and gland studs to be inspected. [Confirm with SAMSA surveyor if he wants a visual inspection of valves before assembly and value/time of pressure test.	SUM	1		
	15.1.17	Contractor to make provision for all valve/s that require renewal/replacement.	SUM	1		
	15.1.18	Reassemble all valves with new joints and new gland packing.	SUM	1		
	15.1.19	Pressure test all overboard valves on the water side to 2 bar for a minimum 5 minutes. TNPA representative to witness tests. <i>[Valves should be closed by hand and then "nipped up" for the pressure test. Over tightened valves will not be accepted]</i>	SUM	1		
	15.1.20	On satisfactory completion of pressure test, valves to be presented to SAMSA surveyor for inspection. <i>[Should any valves fail</i>	SUM	1		

		<i>SAMSA inspection, further SAMSA costs to be borne by contractor]</i>				
	15.1.21	Refit valves using new KLINGER jointing and stainless steel nuts and bolts.	SUM	1		
	15.1.22	Report for valves to be submitted for record purposes	SUM	1		
	15.1.23	During flooding valves to be left in open position and checked for leaks and rectified if leaking by contractor.	SUM	1		
16.0		ANCHOR CHAIN LOCKERS	M ³	5		
	16.1	CHAIN LOCKERS				
	16.1.1	Chain lockers to be opened for inspection. High pressure washed and cleaned for SAMSA inspection. Touch-up paintwork as required. Gratings to be removed and refitted.	SUM	1		
	16.1.2	On completion of painting chain lockers, anchor chains to be brought back on-board.	SUM	1		
	16.1.3	Final inspection by ships staff before chain locker covers is replaced.	SUM	1		
	16.1.4	Anchor locker covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		

	16.1.5	Contractor to make provision for new capstan/s and installations.	SUM	1		
17.0		HULL THICKNESS TESTING				
	17.1	THICKNESS TESTING				
	17.1.1	To do thickness testing as per SAMSA Requirement, plus or minus 80 points per vessel. Port and Stbd hull	SUM	1		
	17.1.2	Hull thickness report to be submitted for SAMSA survey	SUM	1		
18		NAVIGATION				
	18.1	NAVIGATION EQUIPMENT				
	18.1.1	Remove existing equipment including cabling	SUM	1		
	18.1.2	Replace navigation equipment with the latest updated models available in the market in accordance to Class requirements,	SUM	1		
		Equipment to be replaced, but not limited to. Echo sounder Radar AIS SART Epirb GMDSS handheld radios SSB radio with antennae				

		GMDSS VHF radio with antennae Anemometer Compass Navtex Talkback/ intercom Clock Inclinometer Chargers for radios and communications				
	18.1.3	All manuals for navigation equipment fitted to be supplied to craft in electronic form and printed form	SUM	1		
	18.1.4	Drawings for new antennae plan and all electrical schematics for equipment fitted to be supplied in printed and electronic form	SUM	1		
	18.1.5	Commission and certify equipment in accordance to Class requirements	SUM	1		
	18.2	NAVIGATION LIGHTS				
	18.2.1	Remove all Navigation lights and cabling from mast to panel in wheelhouse	<i>SUM</i>	1		
	18.2.2	Install all new navigation lights on mast and rewire with new cabling	<i>SUM</i>	1		
	18.2.3	Install new navigation switch panel as per Class requirements.	<i>SUM</i>	1		

	18.2.4	New electrical schematics for navigational lights to be submitted in printed and electronic format	<i>SUM</i>	1		
	18.2.5	Certificates for navigational lights to be submitted for new navigational lights	<i>SUM</i>	1		
	18.2.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
19		WHEELHOUSE				
	19.1	Bridge chairs for skippers to be removed and new to replaced	ea	2		
	19.2	Old flooring in wheelhouse to be removed and new flooring to be fitted to wheelhouse	m ²	10		
	19.3	Seating arrangements in wheelhouse to be removed and new seating to be installed.	<i>SUM</i>	1		
	19.4	All bridge or wheelhouse accessories to fitted with new.	<i>SUM</i>	1		
20		ACCOMODATION				
	20.1	Bunks in sleeping accommodation to be removed and new bunks to be installed	<i>SUM</i>	6		
	20.2	New mattress to be supplied to fit bunks	<i>SUM</i>	6		
	20.3	Old galley cupboards to be removed and new cupboards to be installed	<i>SUM</i>	4		
	20.4	New basins in galley to be fitted	<i>SUM</i>	2		

	20.5	New taps and plumbing to be installed in galley area (entire system)	<i>SUM</i>	4		
	20.6	Showers area to be retiled and bulkheads repainted	<i>SUM</i>	1		
	20.7	Old toilets to be removed and new toilets to be fitted with new plumbing	<i>SUM</i>	2		
	20.8	Old geyser to be removed and new 100 litre geyser to be fitted.	<i>EA</i>	1		
	20.9	Renew all copper piping and fittings for hot water system	<i>SUM</i>	1		
21		ENGINE ROOM				
	21.1	MAIN ENGINES				
	21.1.1	Port and Stbd main engines to be removed	<i>EA</i>	2		
	21.1.2	New similar spec engines to be supplied and fitted in place of old. Specifications to be taken from old engines	<i>ea</i>	2		
	21.2	GEARBOXES				
	21.2.1	Port and Stbd gearboxes to be removed	<i>ea</i>	2		
	21.2.2	New similar spec gearboxes to be supplied and fitted in place of old	<i>ea</i>	2		

	21.3	INSTALLATION OF MAIN ENGINES AND GEARBOXES				
	21.3.1	Engines and gearboxes to be able to sync together on installation	<i>SUM</i>	1		
	21.3.2	Contractor to arrange alignment to be done for engines and gearboxes	<i>SUM</i>	1		
	21.3.3	Crane to arranged for the removal and on loading of engines and gearboxes into engine room	<i>SUM</i>	1		
	21.3.4	All piping to be modified to fit new installed engines and gearboxes	<i>SUM</i>	1		
	21.3.5	Engines and gearboxes to be chockfast in position	<i>SUM</i>	1		
	21.3.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	21.4	AUXILLARY ENGINES				
	21.4.1	Port and Stbd complete gensets to be removed	<i>ea</i>	2		
	21.4.2	New similar spec complete gensets to be supplied and fitted in place of old. Specifications to be taken from old engines and alternator	<i>ea</i>	2		
	21.4.3	Crane to arranged for the removal and on loading of gensets into engine room	<i>SUM</i>	1		

	21.4.4	All piping to be modified to fit new installed genset	<i>SUM</i>	1		
	21.4.5	New cabling as per original specifications to be supplied for cable to electric board	<i>SUM</i>	1		
	21.4.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	21.5	PUMPS AND MOTORS				
	21.5.1	All pumps and motors in engine room to be removed and replaced with similar spec pumps and motors	<i>SUM</i>	1		
	21.5.2	Motors to be rewired with new cabling	<i>SUM</i>	1		
22		STEERING SYSTEM				
	22.1	Rudder clearances to be taken before rudders are removed. Report to be submitted for SAMSA survey	<i>SUM</i>	1		
	22.2	Rudders to be removed for shaft removal	<i>SUM</i>	1		
	22.3	Rudders stocks to be removed and shafts and bushes to be inspected.	<i>SUM</i>	1		
	22.4	New bearings and seals to be replaced on Port and Stbd rudder stocks	<i>SUM</i>	1		
	22.5	Rudder hydraulic pistons to be overhauled	<i>SUM</i>	1		

	22.6	All hydraulic piping on Steering system to be replaced with new	<i>SUM</i>	1		
	22.7	Oil to be drained from hydraulic tank and tank to be cleaned	<i>SUM</i>	1		
	22.8	New oil to be replenished when all overhauling on Steering system is done	<i>SUM</i>	1		
	22.9	Rudders to be re installed when propeller shafts are fitted	<i>SUM</i>	1		
23		ELECTRICAL				
	23.1	All electrical boards to be cleaned out and breakers checked and replaced	<i>SUM</i>	1		
	23.2	All motor DB boards to be checked and breakers replaced	<i>SUM</i>	1		
	23.3	Fans and fan motors to be replaced and rewired with new cabling	<i>SUM</i>	1		
	23.4	All lighting to be replaced with suitable LED type light fittings	<i>SUM</i>	1		
	23.5	All electrical sockets throughout the craft to be replaced	<i>SUM</i>	1		
	23.6	All batteries for emergency and radio comms to be replaced	<i>SUM</i>	1		
	23.7	All batteries for engine start to be replaced	<i>SUM</i>	1		

	23.8	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	23.9	Electrical insulation test to be done on all electrical equipment and report to be submitted	<i>SUM</i>	1		
	23.10	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
24		MONITORING SYSTEM				
	24.1	New updated monitoring system to be installed for all engine and alternator engine monitoring inclusive of Bridge & Engine Room control stations	ea	1		
	24.2	Commission and certify equipment in accordance to SAMSA/Class requirements	<i>SUM</i>	1		
25		FIRE FIGHTING SYSTEMS				
	25.1	Old fire detection system to be removed and new fire detection system as per SAMSA /Class to be installed	<i>SUM</i>	1		
	25.2	New detectors throughout the craft to be replaced and new detectors fitted	<i>SUM</i>	1		
	25.3	New cabling to be installed for new detection system installation	<i>SUM</i>	1		
	25.4	Commission and certify equipment in accordance to Class requirements. Report to be submitted	<i>SUM</i>	1		

	25.5	CO2 bottles to be renewed	<i>SUM</i>	1		
	25.6	Piping to be renewed for installation of CO2 system	<i>SUM</i>	1		
	25.7	Commission and certify equipment in accordance to Class requirements. Report to be submitted	<i>SUM</i>	1		
	25.8	All Various fire extinguishers to be renewed as per the craft safety plan	<i>SUM</i>	1		
	25.9	Fire hydrants to be renewed	<i>SUM</i>	1		
	25.10	Fire hoses and fire nozzles to be renewed	<i>SUM</i>	1		
26	26.1	PIPE WORK, FENDERS, SCAFFOLDING & STEEL WORK				
	26.1.1	Erect safe access scaffolding to vessel.	SUM	1		
	27.1.2	Arrange for hot work permit before hot work	SUM	1		
	26.1.3	Erect scaffolding on in accessible heights	SUM	1		
	26.1.4	Contractor to make provision for steel work (including piping) (8 000kg steel per craft) [all pipes to be schedule 40 and galvanised] Only Class approved grade steel shall be used.	SUM	1		

27	27.1	WATER management				
	27.1.1	Supply water for blasting and cleaning	SUM	1		
28	28.1	WASTE management				
	28.1.1	Provide waste collection and disposal facilities.	SUM	1		
29	29.1	SAMSA (TNPA + Contractor to agree on the specific dates) Contractor to book surveys with SAMSA.				
	29.1.1	Contractor to make provision for SAMSA to inspect hull before painting	SUM	1		
	29.1.2	Contractor to make provision for SAMSA to inspect sea and overboard valves	SUM	1		
	29.1.3	Contractor to make provision for SAMSA to inspect tank + valve mating surfaces	SUM	1		
	29.1.4	Contractor to make provision for SAMSA to inspect propellers	SUM	1		
	29.1.5	Contractor to make provision for SAMSA to inspect hull prior to filling of dry-dock. Issue of new Dry-docking certificate.	SUM	1		
	29.1.6	Contractor to make provision for SAMSA to give guidance on Thickness testing requirements and shaft testing.	SUM	1		

30	30.1	GAS FREE CERTIFICATE				
	30.1.1	CHEMIST to test and issue gas free certificates for tank entry and hot work permits.	SUM	1		
	30.1.2	Valid gas free certificate to be provided before when working on enclosed spaces Valid gas free certificate for day of SAMSA inspections.	SUM	1		
31	31.1	DRYDOCK				
	31.1.1	Hire of shore cranes, cherry pickers and Hyster. Contractor to supply crane.	SUM	1		
	31.1.2	Arrange 380v 3 phase shore supply + extension cable	SUM	1		
	31.1.3	Arrange ablution facilities	SUM	1		
	31.1.4	Arrange fire main supply	SUM	1		
	31.1.5	Arrange divers for the docking day	SUM	1		
	31.1.6	Contractor to supply rigging equipment.	SUM	1		
	31.1.7	Contractor to book docking facility and make provision to complete works as specified	SUM	1		
32	32.1	HOT WORK				
	32.1.1	Supply fire marshal	SUM	1		
	32.1.2	Supply hot work permit	SUM	1		
	32.1.3	Supply safety officer	SUM	1		

33	33.1	FENDERS				
	33.1.1	Remove and refit horizontal fender.	SUM	1		
	33.1.2	Remove and refit vertical fenders.	SUM	1		
	33.1.3	Renew fender locating pins as required.	SUM	1		
	33.1.4	Straighten fender locating pins as required.	SUM	1		
	33.1.5	Renew vertical fender palms as required.	SUM1	1		
	33.1.6	Repairs to stern horizontal fender housing.	SUM	1		
	33.1.7	Miscellaneous repairs to stern section.	SUM	1		
	33.1.8	Structural repair to belting port and stb'd side.	SUM	1		
	33.1.9	Structural repairs to port and stb'd fender boxes.	SUM	1		
34	34.1	BILGES	M ²	60		
	34.1.1	Pump engine room bilges dry	SUM	1		
	34.1.2	Clean engine room bilges	SUM	1		
	34.1.3	Provide disposal certificate of the bilge water and sludge	SUM	1		
	34.1.4	Clean all areas contaminated by the bilge pumping process	SUM	1		

35	35.1	WATERTIGHT APARTMENTS				
	35.1.2	Watertight doors and potholes	SUM	1		
	35.1.3	Contractor to make provision to make replace all watertight door in accordance to SAMSA/Classification societies	SUM	1		
	35.1.4	To clean all water tight doors rubber groves and fit new rubbers on potholes and water tight doors. <i>Contractor to supply rubber material.</i>	SUM	1		
36	36.1	HARBOUR TRIALS				
	36.1.1	Contractor to make provisions and undertake Harbour & Sea-Trails	SUM	1		
	36.1.2	Contractor to ensure and make provision that all craft certifications are updated in accordance to SAMSA regulations and hand over to TNPA.	SUM	1		
PILOT BOAT GANNET TOTAL (EXCL. VAT)						

PILOT BOAT INYONI

BILL 02

ITEM	SUB ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1		EXTERNAL HULL CLEANING				
	1.1	HULL CLEANING				
	1.1.1	Scrape and high pressure water wash hull exterior. Clean dock and dispose of the barnacles. All high pressure washing to be done with suitable equipment of minimum 220 bar pressure	m ²	305		
	1.2	HULL GRIT BLASTING NOTE: All windows to be securely covered with hardboard before grit blasting	m ²	305		
	1.2.1	(SA1 = Will remove lifting rust and paint. 1 nozzle/hour = 15 m ²) (SA2.0 = Down to bare metal over 80% of hull). (SA2.5 = At least 95% of the surface shall be clean bare steel with at least 90% of any 25mm square clean bare steel. 1 nozzle/hour = 7 m ²). All grit blasting to be conducted in conjunction with the appointed paint representative. This will include the decision as to whether to carry out a SA1.0 or	m ²	305		

		SA2.5 grit blast. Contractors will be responsible for the cleaning and removal of all spent grit from dry-dock and the legal disposal of such.				
	1.2.2	Light wet sweep blasting to SA 1 to be carried out on hull [It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]	m ²	305		
2		EXTERNAL SUPERSTRUCTURE CLEANING				
	2.1	Wet spot grit blasting to SA 1 to be carried out on superstructure, including masts, hook, windlass and other fixtures. <i>It may be necessary to blast certain areas to SA 2.5, allow 15% for this</i>][Contractors to ensure all glass areas are covered and protected against damage from shot blast] [Contractors to supply own certified scaffolding if required][Copies of safety Certificates of any safety equipment to be available to the vessel for the duration of the dry-dock, this includes scaffolding, safety harness etc.] Water wash all sand blasted areas to remove all grit before painting	m ²	80		

3		MAIN DECK AND MONKEY ISLAND CLEANING				
	3.1	Wet spot grit blasting to SA 1 to be carried out on main deck, monkey island deck.[It may be necessary to blast certain areas to SA2.5, allow 15% for this] <i>[Contractors to ensure all glass areas are covered and protected against damage from shot blast] [Contractors to supply own certified scaffolding if required][Copies of safety Certificates of any safety equipment to be available to the vessel for the duration of the dry-dock, this includes scaffolding, safety harness etc.] Water wash all sand blasted areas to remove all grit before painting</i>	m ²	166		
4		SEA CHESTS AND GRIDS				
	4.1	Remove ships intake grids (two in number).	EA	2		
	4.2	Mark grids for easy installation	EA	2		
	4.3	Scrape and high pressure wash inside sea chests and sea chest grids.	EA	2		
	4.4	Damaged Intake Grid bolts and threads to be repaired and/or replaced. Broken bolt threads too be removed from holes. <i>[Bolts are stainless steel]</i>	EA	10		

	4.5	Spray paint inside sea chests and grids as per hull specifications	m ²	50		
	4.6	Remove anodes and replace anodes inside sea chests after painting [Ref : Hull painting]	EA	2		
	4.7	Replace grids upon completion of painting [Ref : Hull painting]	EA	2		
	4.8	All sea chest grid bolts to be rewired with stainless steel wire [Wire to be supplied by CONTRACTOR]	ROLLS	2		
5		HULL PAINTING [On Completion of blasting and mechanically cleaning] NOTE: Paint specs requirements might change by paint specialist. Painters to follow specialist advise.				
	5.1	Apply a coat primer paint as per appointed paint representative's instructions to hull exterior, including underwater and side areas, sea chests, and hawser pipes.	m ²	305		
	5.2	Apply a coat key paint as per appointed paint representative's instructions to hull exterior, including underwater, sea chests, and hawser pipes.	m ²	305		
	5.3	Apply first anti-fouling paint as per appointed paint representative's instructions to	m ²	305		

		hull exterior up to and including the waterline. To include underwater and side areas, sea chests, hawser pipes.				
	5.4	Apply second anti-fouling paint as per appointed paint representative's instructions to hull exterior up to and including the waterline. To include underwater and side areas, sea chests, hawser pipes.	m ²	305		
6		ABOVE WATER LINE PAINTING				
	6.1	Apply a coat primer paint as per appointed paint representative's instructions to hull exterior above waterline.	m ²	166		
	6.2	Apply coat [black] as per appointed paint representative's instructions to hull exterior above waterline. To include hawser pipes.	m ²	166		
	6.3	Paint vessel names, port of registration and draft marks In white. Port and stb'd side	SUM	1		
7		SUPERSTRUCTURE PAINTING				
	7.1	Apply primer coat to prepared exposed areas on superstructure and all decks as per appointed paint representative's instructions.	m ²	200		

	7.2	Apply final coat [white] as per appointed paint representatives instructions to complete superstructure, including mast.	m ²	200		
8		MAIN DECK AND MONKEY ISLAND PAINTING				
	8.1	Apply primer coat to prepared exposed areas all decks as per appointed paint representative's instructions	m ²	170		
	8.2	Apply coat deck green as per appointed paint representative's instructions to all decks.	m ²	170		
	8.3	Paint all decks with final coat green paint as per manufacturer's specification and put non-slip sand on decks.	m ²	166		
	8.4	Light wet sweep blasting to SA 1 to be carried out on hull <i>[It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]</i>	M2	166		
9		DECK AUXILLIARY EQUIPMENT PAINTING				
	9.1	Apply primer coat to prepared exposed areas on all deck auxiliary equipment as per appointed paint representative's instructions.	M2	305		

	9.2	Paint all deck auxiliary equipment such as winches, anchor windlass and fit denzo tape on metal fittings.(established on site briefing)	M2	305		
	9.3	Light wet sweep blasting to SA 1 to be carried out on hull. <i>[It may be necessary to spot blast certain areas to SA 2.5, allow 15% for this]</i>	M2	305		
	9.4	Contractor to overhaul and or refurbish and commission the existing capstan	SUM	1		
10		ANODES				
	10.1	All old anodes to be removed from hull, sea chests and rudder stocks before shot blasting and returned to vessel.	ea	18		
	10.2	All studs and threads to be cleaned <i>[16mm die nut]</i> and protected before shot blasting and painting commences. <i>(Suggest using garden hose pipe or strong tape to protect studs 16mm ID)</i>	ea	20		
	10.3	Broken or damaged anode studs to be replaced <i>[16mm]. Contractor to make provision</i>	ea			
	10.4	Replace new anodes in sea chest, on hull and rudder stocks on completion of	ea	18		

		painting. <i>[Owner to supply anodes, washers and nuts]</i>				
11		ANCHORS AND CHAIN				
	11.1	Lower anchors and range chains for SAMSA survey	ea	2		
	11.2	Wet grit blast anchors and chains.	ea	2		
	11.3	Contractor to make provision for a new chain	ea	2		
	11.3	Prime and Paint anchors	ea	2		
	11.4	Paint markings on chain.	ea	2		
	11.5	Coat chains with boiled linseed oil or equivalent.	ea	2		
	11.6	Contractor to make provision for a replacement with new or full-length anchor chains	ea	2		
12		TANKS				
		Contractors to open and reseal tanks using new neoprene or Vellumoid jointing. Contractors to ensure that all tanks have a valid gas free certificate before entering. All tanks to be verified gas free on daily basis. Contractors to supply own ventilation fans. Any contractors not following safe working practices will be stopped from working. Tank plugs to be removed by ships				

		staff. Low voltage lights to be used in the tanks and intrinsically safe tools to be used in the tanks. Rules for entering confined spaces to be adhered to				
	12.1	<i>FRESH WATER TANKS [Port and Starboard]</i>	m ³	2.3		
	12.1.1	Fresh water tanks to be emptied.	m ³	2.3		
	12.1.2	Fresh water tanks – manhole covers to be removed	SUM	1		
	12.1.3	Fresh Water Tanks - All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.1.4	Fresh water tanks cover mating surfaces to be mechanically cleaned and prepared.	SUM	1		
	12.1.5	New Neoprene jointing to be supplied for tank covers	SUM	1		
	12.1.6	Gas free certificate to be issued for entry into Fresh Water Tank	SUM	1		
	12.1.7	Fresh water tank to be high pressure water washed. Water to be removed and tanks dried.	SUM	1		
	12.1.8	Fresh water tank to be degreased and mechanically cleaned for inspection.	SUM	1		
	12.1.9	Fresh water tanks to be inspected by ships staff and by Appointed Paint Representative	SUM	1		

	12.1.10	On approval fresh water tank to be painted as per Appointed Paint Representative. <i>[Allow 20% coverage for quotation purposes]</i>	SUM	1		
	12.1.11	Final inspection by ships staff before tank covers are replaced.	SUM	1		
	12.1.12	Fresh water tank covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.1.13	Paint all tanks with final coat as per paint manufacturer's specification	SUM	1		
	12.1.14	Light wet sweep blasting to SA 1 to be carried out on hull <i>[It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]</i>	SUM	1		
	12.1.15	Apply primer coat to prepared exposed areas on all as per appointed paint representative's instructions.	SUM	1		
	12.2	<i>FUEL TANKS: NOTE:</i> <i>Contractor to pump out fuel and provide storage facility ± 10M³</i>				
	12.2.1	Fuel day tank-Port day tank	m³	1.3		
	12.2.2	Fuel day tank-Starboard day tank	m³	1.3		

	12.2.3	Fuel Oil double bottom fuel tank -No 4	m ³	4.6		
	12.2.4	Fuel Oil double bottom fuel tank -No 6	m ³	6.7		
	12.2.5	Fuel Oil double bottom fuel tank -No 7	m ³	6.7		
	12.2.6	Contractor to make provision and or install flow meter gauges on both Port & STB day tanks	m ³	10		
	12.2.7	Fuel tanks covers to be removed/opened	EA	5		
	12.2.8	Fuel Tanks to be opened	Sum	1		
	12.2.9	Fuel Tanks All studs, nuts and bolts to be cleaned and buffed.	Sum	1		
	12.2.10	Fuel Tanks covers mating surfaces to be mechanically cleaned and prepared.	Sum	1		
	12.2.11	New oil resistant Vellumoid jointing to be supplied for Fuel Tanks covers.	Sum	1		
	12.2.12	Gas free certificate to be issued for before entry into Fuel Tanks	Sum	1		
	12.2.13	Fuel Tanks All studs, nuts and bolts to be cleaned and buffed.	Sum	1		
	12.2.14	Fuel Tanks covers mating surfaces to be mechanically cleaned and prepared.	Sum	1		

	12.2.15	New oil resistant Vellumoid jointing to be supplied for Fuel Tanks covers.	Sum	1		
	12.2.16	Gas free certificate to be issued for before entry into Fuel Tanks	Sum	1		
	12.2.17	Fuel Tank to be cleaned for SAMSA inspection	Sum	1		
	12.2.18	Fuel Tank to be inspected by ships staff	Sum	1		
	12.2.19	Fuel Tank inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	Sum	1		
	12.2.20	Final inspection by ships staff before covers are replaced.	Sum	1		
	12.2.21	Fuel Double Bottom and day Tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	Sum	1		
12.3		Grey /black water tank Contractor to pump out grey/black water and provide disposal facility ± 2M³ and dispose of grey/black water and provide disposal certificate.				
	12.3.1	Grey/black water tanks to be emptied.	M3	1.83		
	12.3.2	Remove all pipe work to open tank	SUM	1		
	12.3.3	Grey/black water tanks covers to be removed	SUM	1		

	12.3.4	Grey/black water tanks All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.3.5	Gas free certificate to be issued for before entry into grey/black water tank	SUM	1		
	12.3.6	Grey/black water tanks to be cleaned for SAMSA inspection	SUM	1		
	12.3.7	Grey/black water tanks to be inspected by ships staff	SUM	1		
	12.3.8	Grey/black water tanks inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	SUM	1		
	12.3.9	Final inspection by ships staff before covers are replaced.	SUM	1		
	12.3.10	Grey/black water tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.3.11	Grey/black water tanks replace neoprene gasket	SUM	1		
	12.3.12	Grey/black water tanks replace all pipe work on completion	SUM	1		
12.4		DIRTY OIL TANK Contractor to pump out Dirty oil tank and provide disposal facility ± 2M³ and dispose of dirty oil and provide disposal certificate.	M³	1.265		

	12.4.1	Dirty oil tanks to be emptied.	SUM	1		
	12.4.2	Remove all pipe work to open tank	SUM	1		
	12.4.3	Dirty oil tanks covers to be removed	SUM	1		
	12.4.4	Dirty oil tanks all studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.4.5	Gas free certificate to be issued for before entry into oily water tank	SUM	1		
	12.4.6	Dirty oil tanks to be cleaned for SAMSA inspection	SUM	1		
	12.4.7	Dirty oil tanks to be inspected by ships staff	SUM	1		
	12.4.8	Dirty oil tanks inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	SUM	1		
	12.4.9	Final inspection by ships staff before covers are replaced.	SUM	1		
	12.4.10	Dirty oil tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.4.11	Dirty oil tanks replace neoprene gasket	SUM	1		
	12.4.12	Dirty oil tanks replace all pipe work on completion	SUM	1		

13		PROPULSION				
	13.1	Propellers to be cleaned and polished	ea	2		
	13.2	Shaft clearance to be taken before shafts are drawn. Report to be submitted for SAMSA survey	ea	2		
	13.3	Propeller shafts to be drawn	ea	2		
	13.4	Shafts straightness tests to be done in contractor workshop	ea	2		
	13.5	Non Destructive testing to check for cracks.	ea	2		
	13.6	Shaft measurements to be taken. Report to be submitted for SAMSA survey	ea	2		
	13.7	Blueing of the shaft and the propeller to be done and inspected by CMEQ and SAMSA surveyor	ea	2		
	13.8	Blueing of the shaft and the coupling to be done and inspected by CMEQ and SAMSA surveyor	ea	2		
	13.9	Cutless bearing measurements to be taken when shafts are drawn	ea	2		
	13.10	Cutless bearings to be replaced with new Vesconite machined bearings	ea	2		

	13.11	When the shaft is assembled, stern tubes seals and white metal bearings to be fitted, specification will be provided by the owner. Contractor to supply new stern tube seals	ea	4		
	13.12	Contractor to check for leaks on Stern Tubes after seals are fitted and system filled with oil	ea	4		
14		SHIPS VALVES				
	14.1	<i>Valves to be dismantled for SAMSA inspection and refurbished. Machine, lapin/machine valve and seats as required. New jointing and packing to be used. Jointing between valve and ships side/sea chest to be renewed after cleaning flanges. Stainless steel bolts and nuts to be used where mild steel are found. All valve and strainer insides to paint with Apexior 3 or equivalent. All valve openings to exterior to be blanked off to stop ingress of shot blast and paint. All mating surfaces, studs and nuts to be examined for signs of corrosion.</i>				
	14.1.1	Port sea water inlet valve to strainer (butterfly valve) (DN 200)	ea	1		
	14.1.2	Stb'd sea water inlet valve to strainer (butterfly valve) (DN 200)	ea	1		

	14.1.3	<i>Water manifold need to be removed to get to the sea chest valves, pipe work and other valves</i>	EA	2		
	14.1.4	Remove sea valves in entirety	EA	15		
	14.1.5	All openings to be blanked off to stop ingress of shot blast/paint	EA	15		
	14.1.6	Valve/sea chest mating surfaces to be cleaned, prepared and inspected for damage and/or corrosion.	EA	15		
	14.1.7	All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	14.1.8	Sea chest tops to be degreased, mechanically cleaned and painted with a suitable primer paint with a corrosion inhibitor and final top coat	SUM	1		
	14.1.9	Dismantle and refurbish valves, including cleaning and painting, lapping-in valve seats/disks or machining same where necessary.	SUM	1		
	14.1.10	Valve parts too inspected by vessel CME before assembly. Valve bodies, valve spindles, valve disks and seats to be inspected for damage and all valve spindle threads checked. Condition of gland followers and gland studs to be inspected. [Confirm with SAMSA surveyor if he wants a visual inspection of valves before assembly and value/time of pressure test.	SUM	1		

	14.1.11	Reassemble all valves with new joints and new gland packing.	EA	15		
	14.1.12	Pressure test all sea valves on the gland side to 2 bar for a minimum 5 minutes. CMEQ to witness tests. <i>[Valves should be closed by hand and then "nipped up" for the pressure test. Over tightened valves will not be accepted]</i>	SUM	1		
	14.1.13	On satisfactory completion of pressure test, valves to be presented to SAMSA surveyor for inspection. <i>[Should any valves fail SAMSA inspection, further SAMSA costs to be borne by contractor]</i>	SUM	1		
	14.1.14	Refit valves using new KLINGER jointing and stainless steel nuts and bolts.	SUM	1		
	14.1.15	Report for valves to be submitted for record purposes	SUM	1		
15.0		VALVES				
	15.1	OVERBOARD VALVES				
	15.1.1	Overboard Fire line valve (65mm) SDNR Globe valve	ea	1		
	15.1.2	Bilge Overboard Valve (40mm) SDNR Globe valve	ea	1		
	15.1.3	Black Water and Grey water overboard valve(40mm) SDNR Globe valve	ea	1		

	15.1.4	Port main engine sea water overboard valve(65mm) SDNR Globe valve	ea	1		
	15.1.5	Stb'd main engine sea water overboard valve(65mm) SDNR Globe valve	ea	1		
	15.1.6	Port generator sea water overboard valve(32mm) SDNR Globe valve	ea	1		
	15.1.7	Stb'd generator sea water overboard valve(32mm) SDNR Globe valve	ea	1		
	15.1.7	Oily water separator overboard valve(25mm) SDNR Globe valve	ea	1		
	15.1.8	Chain locker overboard valve (40mm) SDNR Globe valve	ea	1		
	15.1.9	Port Generator overboard valve NRN(DN100)	ea	1		
	15.1.10	Starboard Generator overboard valve NRN(DN100)	ea	1		
	15.1.11	Remove overboard valves in entirety	SUM	1		
	15.1.12	All openings to be blanked off to stop ingress of shot blast/paint	SUM	1		
	15.1.13	Valve/hull mating surfaces to be cleaned, prepared and inspected for damage and/or corrosion.	SUM	1		
	15.1.14	All studs, nuts and bolts to be cleaned and buffed.	SUM	1		

	15.1.15	Dismantle and Refurbish valves, including cleaning and painting, lapping-in valve seats/disks or machining same where necessary. Rubber to be renewed on non-return flap valves.	SUM	1		
	15.1.16	Valve parts to be inspected by TNPA representative before assembly. Valve bodies, valve spindles, valve disks and seats to be inspected for damage and all valve spindle threads checked. Condition of gland followers and gland studs to be inspected. [Confirm with SAMSA surveyor if he wants a visual inspection of valves before assembly and value/time of pressure test.	SUM	1		
	15.1.17	Contractor to make provision for all valve/s that require renewal/replacement.	SUM	1		
	15.1.18	Reassemble all valves with new joints and new gland packing.	SUM	1		
	15.1.19	Pressure test all overboard valves on the water side to 2 bar for a minimum 5 minutes. TNPA representative to witness tests. <i>[Valves should be closed by hand and then "nipped up" for the pressure test. Over tightened valves will not be accepted]</i>	SUM	1		
	15.1.20	On satisfactory completion of pressure test, valves to be presented to SAMSA surveyor for inspection. <i>[Should any valves fail</i>	SUM	1		

		<i>SAMSA inspection, further SAMSA costs to be borne by contractor]</i>				
	15.1.21	Refit valves using new KLINGER jointing and stainless steel nuts and bolts.	SUM	1		
	15.1.22	Report for valves to be submitted for record purposes	SUM	1		
	15.1.23	During flooding valves to be left in open position and checked for leaks and rectified if leaking by contractor.	SUM	1		
16.0		ANCHOR CHAIN LOCKERS	M ³	5		
	16.1	CHAIN LOCKERS				
	16.1.1	Chain lockers to be opened for inspection. High pressure washed and cleaned for SAMSA inspection. Touch-up paintwork as required. Gratings to be removed and refitted.	SUM	1		
	16.1.2	On completion of painting chain lockers, anchor chains to be brought back on-board.	SUM	1		
	16.1.3	Final inspection by ships staff before chain locker covers is replaced.	SUM	1		
	16.1.4	Anchor locker covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		

	16.1.5	Contractor to make provision for new capstan/s and installations.	SUM	1		
17.0		HULL THICKNESS TESTING				
	17.1	THICKNESS TESTING				
	17.1.1	To do thickness testing as per SAMSA Requirement, plus or minus 80 points per vessel. Port and Stbd hull	SUM	1		
	17.1.2	Hull thickness report to be submitted for SAMSA survey	SUM	1		
18		NAVIGATION				
	18.1	NAVIGATION EQUIPMENT				
	18.1.1	Remove existing equipment including cabling	SUM	1		
	18.1.2	Replace navigation equipment with the latest updated models available in the market in accordance to Class requirements,	SUM	1		
		Equipment to be replaced, but not limited to. Echo sounder Radar AIS SART Epirb GMDSS handheld radios SSB radio with antennae				

		GMDSS VHF radio with antennae Anemometer Compass Navtex Talkback/ intercom Clock Inclinometer Chargers for radios and communications				
	18.1.3	All manuals for navigation equipment fitted to be supplied to craft in electronic form and printed form	SUM	1		
	18.1.4	Drawings for new antennae plan and all electrical schematics for equipment fitted to be supplied in printed and electronic form	SUM	1		
	18.1.5	Commission and certify equipment in accordance to Class requirements	SUM	1		
	18.2	NAVIGATION LIGHTS				
	18.2.1	Remove all Navigation lights and cabling from mast to panel in wheelhouse	<i>SUM</i>	1		
	18.2.2	Install all new navigation lights on mast and rewire with new cabling	<i>SUM</i>	1		
	18.2.3	Install new navigation switch panel as per Class requirements.	<i>SUM</i>	1		

	18.2.4	New electrical schematics for navigational lights to be submitted in printed and electronic format	<i>SUM</i>	1		
	18.2.5	Certificates for navigational lights to be submitted for new navigational lights	<i>SUM</i>	1		
	18.2.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
19		WHEELHOUSE				
	19.1	Bridge chairs for skippers to be removed and new to replaced	ea	2		
	19.2	Old flooring in wheelhouse to be removed and new flooring to be fitted to wheelhouse	m ²	10		
	19.3	Seating arrangements in wheelhouse to be removed and new seating to be installed.	<i>SUM</i>	1		
	19.4	All bridge or wheelhouse accessories to fitted with new.	<i>SUM</i>	1		
20		ACCOMODATION				
	20.1	Bunks in sleeping accommodation to be removed and new bunks to be installed	<i>SUM</i>	6		
	20.2	New mattress to be supplied to fit bunks	<i>SUM</i>	6		
	20.3	Old galley cupboards to be removed and new cupboards to be installed	<i>SUM</i>	4		
	20.4	New basins in galley to be fitted	<i>SUM</i>	2		

	20.5	New taps and plumbing to be installed in galley area (entire system)	<i>SUM</i>	4		
	20.6	Showers area to be retiled and bulkheads repainted	<i>SUM</i>	1		
	20.7	Old toilets to be removed and new toilets to be fitted with new plumbing	<i>SUM</i>	2		
	20.8	Old geyser to be removed and new 100 litre geyser to be fitted.	<i>EA</i>	1		
	20.9	Renew all copper piping and fittings for hot water system	<i>SUM</i>	1		
21		ENGINE ROOM				
	21.1	MAIN ENGINES				
	21.1.1	Port and Stbd main engines to be removed	<i>EA</i>	2		
	21.1.2	New similar spec engines to be supplied and fitted in place of old. Specifications to be taken from old engines	<i>ea</i>	2		
	21.2	GEARBOXES				
	21.2.1	Port and Stbd gearboxes to be removed	<i>ea</i>	2		
	21.2.2	New similar spec gearboxes to be supplied and fitted in place of old	<i>ea</i>	2		

	21.3	INSTALLATION OF MAIN ENGINES AND GEARBOXES				
	21.3.1	Engines and gearboxes to be able to sync together on installation	<i>SUM</i>	1		
	21.3.2	Contractor to arrange alignment to be done for engines and gearboxes	<i>SUM</i>	1		
	21.3.3	Crane to arranged for the removal and on loading of engines and gearboxes into engine room	<i>SUM</i>	1		
	21.3.4	All piping to be modified to fit new installed engines and gearboxes	<i>SUM</i>	1		
	21.3.5	Engines and gearboxes to be chockfast in position	<i>SUM</i>	1		
	21.3.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	21.4	AUXILLARY ENGINES				
	21.4.1	Port and Stbd complete gensets to be removed	<i>ea</i>	2		
	21.4.2	New similar spec complete gensets to be supplied and fitted in place of old. Specifications to be taken from old engines and alternator	<i>ea</i>	2		
	21.4.3	Crane to arranged for the removal and on loading of gensets into engine room	<i>SUM</i>	1		

	21.4.4	All piping to be modified to fit new installed genset	<i>SUM</i>	1		
	21.4.5	New cabling as per original specifications to be supplied for cable to electric board	<i>SUM</i>	1		
	21.4.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	21.5	PUMPS AND MOTORS				
	21.5.1	All pumps and motors in engine room to be removed and replaced with similar spec pumps and motors	<i>SUM</i>	1		
	21.5.2	Motors to be rewired with new cabling	<i>SUM</i>	1		
22		STEERING SYSTEM				
	22.1	Rudder clearances to be taken before rudders are removed. Report to be submitted for SAMSA survey	<i>SUM</i>	1		
	22.2	Rudders to be removed for shaft removal	<i>SUM</i>	1		
	22.3	Rudders stocks to be removed and shafts and bushes to be inspected.	<i>SUM</i>	1		
	22.4	New bearings and seals to be replaced on Port and Stbd rudder stocks	<i>SUM</i>	1		
	22.5	Rudder hydraulic pistons to be overhauled	<i>SUM</i>	1		

	22.6	All hydraulic piping on Steering system to be replaced with new	<i>SUM</i>	1		
	22.7	Oil to be drained from hydraulic tank and tank to be cleaned	<i>SUM</i>	1		
	22.8	New oil to be replenished when all overhauling on Steering system is done	<i>SUM</i>	1		
	22.9	Rudders to be re installed when propeller shafts are fitted	<i>SUM</i>	1		
23		ELECTRICAL				
	23.1	All electrical boards to be cleaned out and breakers checked and replaced	<i>SUM</i>	1		
	23.2	All motor DB boards to be checked and breakers replaced	<i>SUM</i>	1		
	23.3	Fans and fan motors to be replaced and rewired with new cabling	<i>SUM</i>	1		
	23.4	All lighting to be replaced with suitable LED type light fittings	<i>SUM</i>	1		
	23.5	All electrical sockets throughout the craft to be replaced	<i>SUM</i>	1		
	23.6	All batteries for emergency and radio comms to be replaced	<i>SUM</i>	1		
	23.7	All batteries for engine start to be replaced	<i>SUM</i>	1		

	23.8	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	23.9	Electrical insulation test to be done on all electrical equipment and report to be submitted	<i>SUM</i>	1		
	23.10	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
24		MONITORING SYSTEM				
	24.1	New updated monitoring system to be installed for all engine and alternator engine monitoring inclusive of Bridge & Engine Room control stations	ea	1		
	24.2	Commission and certify equipment in accordance to SAMSA/Class requirements	<i>SUM</i>	1		
25		FIRE FIGHTING SYSTEMS				
	25.1	Old fire detection system to be removed and new fire detection system as per SAMSA /Class to be installed	<i>SUM</i>	1		
	25.2	New detectors throughout the craft to be replaced and new detectors fitted	<i>SUM</i>	1		
	25.3	New cabling to be installed for new detection system installation	<i>SUM</i>	1		
	25.4	Commission and certify equipment in accordance to Class requirements. Report to be submitted	<i>SUM</i>	1		

	25.5	CO2 bottles to be renewed	<i>SUM</i>	1		
	25.6	Piping to be renewed for installation of CO2 system	<i>SUM</i>	1		
	25.7	Commission and certify equipment in accordance to Class requirements. Report to be submitted	<i>SUM</i>	1		
	25.8	All Various fire extinguishers to be renewed as per the craft safety plan	<i>SUM</i>	1		
	25.9	Fire hydrants to be renewed	<i>SUM</i>	1		
	25.10	Fire hoses and fire nozzles to be renewed	<i>SUM</i>	1		
26	26.1	PIPE WORK, FENDERS, SCAFFOLDING & STEEL WORK				
	26.1.1	Erect safe access scaffolding to vessel.	SUM	1		
	27.1.2	Arrange for hot work permit before hot work	SUM	1		
	26.1.3	Erect scaffolding on in accessible heights	SUM	1		
	26.1.4	Contractor to make provision for steel work (including piping) (8 000kg steel per craft) [all pipes to be schedule 40 and galvanised] Only Class approved grade steel shall be used.	SUM	1		

27	27.1	WATER management				
	27.1.1	Supply water for blasting and cleaning	SUM	1		
28	28.1	WASTE management				
	28.1.1	Provide waste collection and disposal facilities.	SUM	1		
29	29.1	SAMSA (TNPA + Contractor to agree on the specific dates) Contractor to book surveys with SAMSA.				
	29.1.1	Contractor to make provision for SAMSA to inspect hull before painting	SUM	1		
	29.1.2	Contractor to make provision for SAMSA to inspect sea and overboard valves	SUM	1		
	29.1.3	Contractor to make provision for SAMSA to inspect tank + valve mating surfaces	SUM	1		
	29.1.4	Contractor to make provision for SAMSA to inspect propellers	SUM	1		
	29.1.5	Contractor to make provision for SAMSA to inspect hull prior to filling of dry-dock. Issue of new Dry-docking certificate.	SUM	1		
	29.1.6	Contractor to make provision for SAMSA to give guidance on Thickness testing requirements and shaft testing.	SUM	1		

30	30.1	GAS FREE CERTIFICATE				
	30.1.1	CHEMIST to test and issue gas free certificates for tank entry and hot work permits.	SUM	1		
	30.1.2	Valid gas free certificate to be provided before when working on enclosed spaces Valid gas free certificate for day of SAMSA inspections.	SUM	1		
31	31.1	DRYDOCK				
	31.1.1	Hire of shore cranes, cherry pickers and Hyster. Contractor to supply crane.	SUM	1		
	31.1.2	Arrange 380v 3 phase shore supply + extension cable	SUM	1		
	31.1.3	Arrange ablution facilities	SUM	1		
	31.1.4	Arrange fire main supply	SUM	1		
	31.1.5	Arrange divers for the docking day	SUM	1		
	31.1.6	Contractor to supply rigging equipment.	SUM	1		
	31.1.7	Contractor to book docking facility and make provision to complete works as specified	SUM	1		
32	32.1	HOT WORK				
	32.1.1	Supply fire marshal	SUM	1		
	32.1.2	Supply hot work permit	SUM	1		
	32.1.3	Supply safety officer	SUM	1		

33	33.1	FENDERS				
	33.1.1	Remove and refit horizontal fender.	SUM	1		
	33.1.2	Remove and refit vertical fenders.	SUM	1		
	33.1.3	Renew fender locating pins as required.	SUM	1		
	33.1.4	Straighten fender locating pins as required.	SUM	1		
	33.1.5	Renew vertical fender palms as required.	SUM1	1		
	33.1.6	Repairs to stern horizontal fender housing.	SUM	1		
	33.1.7	Miscellaneous repairs to stern section.	SUM	1		
	33.1.8	Structural repair to belting port and stb'd side.	SUM	1		
	33.1.9	Structural repairs to port and stb'd fender boxes.	SUM	1		
34	34.1	BILGES	M ²	60		
	34.1.1	Pump engine room bilges dry	SUM	1		
	34.1.2	Clean engine room bilges	SUM	1		
	34.1.3	Provide disposal certificate of the bilge water and sludge	SUM	1		
	34.1.4	Clean all areas contaminated by the bilge pumping process	SUM	1		

35	35.1	WATERTIGHT APARTMENTS				
	35.1.2	Watertight doors and potholes	SUM	1		
	35.1.3	Contractor to make provision to make replace all watertight door in accordance to SAMSA/Classification societies	SUM	1		
	35.1.4	To clean all water tight doors rubber groves and fit new rubbers on potholes and water tight doors. <i>Contractor to supply rubber material.</i>	SUM	1		
36	36.1	HARBOUR TRIALS				
	36.1.1	Contractor to make provisions and undertake Harbour & Sea-Trails	SUM	1		
	36.1.2	Contractor to ensure and make provision that all craft certifications are updated in accordance to SAMSA regulations and hand over to TNPA.	SUM	1		
PILOT BOAT INYONI TOTAL (EXCL. VAT)						

PILOT BOAT PETREL

BILL 03

ITEM	SUB ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1		EXTERNAL HULL CLEANING				
	1.1	HULL CLEANING				
	1.1.1	Scrape and high pressure water wash hull exterior. Clean dock and dispose of the barnacles. All high pressure washing to be done with suitable equipment of minimum 220 bar pressure	m ²	305		
	1.2	HULL GRIT BLASTING NOTE: All windows to be securely covered with hardboard before grit blasting	m ²	305		
	1.2.1	(SA1 = Will remove lifting rust and paint. 1 nozzle/hour = 15 m ²) (SA2.0 = Down to bare metal over 80% of hull). (SA2.5 = At least 95% of the surface shall be clean bare steel with at least 90% of any 25mm square clean bare steel. 1 nozzle/hour = 7 m ²). All grit blasting to be conducted in conjunction with the appointed paint representative. This will	m ²	305		

		include the decision as to whether to carry out a SA1.0 or SA2.5 grit blast. Contractors will be responsible for the cleaning and removal of all spent grit from dry-dock and the legal disposal of such.				
	1.2.2	Light wet sweep blasting to SA 1 to be carried out on hull [It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]	m ²	305		
2		EXTERNAL SUPERSTRUCTURE CLEANING				
	2.1	Wet spot grit blasting to SA 1 to be carried out on superstructure, including masts, hook, windlass and other fixtures. <i>It may be necessary to blast certain areas to SA 2.5, allow 15% for this</i> [Contractors to ensure all glass areas are covered and protected against damage from shot blast] [Contractors to supply own certified scaffolding if required][Copies of safety Certificates of any safety equipment to be available to the vessel for the duration of the dry-dock, this includes scaffolding, safety harness etc.] Water wash all sand blasted areas to remove all grit before painting	m ²	80		

3		MAIN DECK AND MONKEY ISLAND CLEANING				
	3.1	Wet spot grit blasting to SA 1 to be carried out on main deck, monkey island deck.[It may be necessary to blast certain areas to SA2.5, allow 15% for this] <i>[Contractors to ensure all glass areas are covered and protected against damage from shot blast] [Contractors to supply own certified scaffolding if required][Copies of safety Certificates of any safety equipment to be available to the vessel for the duration of the dry-dock, this includes scaffolding, safety harness etc.] Water wash all sand blasted areas to remove all grit before painting</i>	m ²	166		
4		SEA CHESTS AND GRIDS				
	4.1	Remove ships intake grids (two in number).	EA	2		
	4.2	Mark grids for easy installation	EA	2		
	4.3	Scrape and high pressure wash inside sea chests and sea chest grids.	EA	2		
	4.4	Damaged Intake Grid bolts and threads to be repaired and/or replaced. Broken bolt threads too be removed from holes. <i>[Bolts are stainless steel]</i>	EA	10		

	4.5	Spray paint inside sea chests and grids as per hull specifications	m ²	50		
	4.6	Remove anodes and replace anodes inside sea chests after painting [Ref : Hull painting]	EA	2		
	4.7	Replace grids upon completion of painting [Ref : Hull painting]	EA	2		
	4.8	All sea chest grid bolts to be rewired with stainless steel wire [Wire to be supplied by CONTRACTOR]	ROLLS	2		
5		HULL PAINTING [On Completion of blasting and mechanically cleaning] NOTE: Paint specs requirements might change by paint specialist. Painters to follow specialist advise.				
	5.1	Apply a coat primer paint as per appointed paint representative's instructions to hull exterior, including underwater and side areas, sea chests, and hawser pipes.	m ²	305		
	5.2	Apply a coat key paint as per appointed paint representative's instructions to hull exterior, including underwater, sea chests, and hawser pipes.	m ²	305		
	5.3	Apply first anti-fouling paint as per appointed paint representative's instructions to	m ²	305		

		hull exterior up to and including the waterline. To include underwater and side areas, sea chests, hawser pipes.				
	5.4	Apply second anti-fouling paint as per appointed paint representative's instructions to hull exterior up to and including the waterline. To include underwater and side areas, sea chests, hawser pipes.	m ²	305		
6		ABOVE WATER LINE PAINTING				
	6.1	Apply a coat primer paint as per appointed paint representative's instructions to hull exterior above waterline.	m ²	166		
	6.2	Apply coat [black] as per appointed paint representative's instructions to hull exterior above waterline. To include hawser pipes.	m ²	166		
	6.3	Paint vessel names, port of registration and draft marks In white. Port and stb'd side	SUM	1		
7		SUPERSTRUCTURE PAINTING				
	7.1	Apply primer coat to prepared exposed areas on superstructure and all decks as per appointed paint representative's instructions.	m ²	200		

	7.2	Apply final coat [white] as per appointed paint representatives instructions to complete superstructure, including mast.	m ²	200		
8		MAIN DECK AND MONKEY ISLAND PAINTING				
	8.1	Apply primer coat to prepared exposed areas all decks as per appointed paint representative's instructions	m ²	170		
	8.2	Apply coat deck green as per appointed paint representative's instructions to all decks.	m ²	170		
	8.3	Paint all decks with final coat green paint as per manufacturer's specification and put non-slip sand on decks.	m ²	166		
	8.4	Light wet sweep blasting to SA 1 to be carried out on hull <i>[It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]</i>	M2	166		
9		DECK AUXILLIARY EQUIPMENT PAINTING				
	9.1	Apply primer coat to prepared exposed areas on all deck auxiliary equipment as per appointed paint representative's instructions.	M2	305		

	9.2	Paint all deck auxiliary equipment such as winches, anchor windlass and fit denzo tape on metal fittings.(established on site briefing)	M2	305		
	9.3	Light wet sweep blasting to SA 1 to be carried out on hull. <i>[It may be necessary to spot blast certain areas to SA 2.5, allow 15% for this]</i>	M2	305		
	9.4	Contractor to overhaul and or refurbish and commission the existing capstan	SUM	1		
10		ANODES				
	10.1	All old anodes to be removed from hull, sea chests and rudder stocks before shot blasting and returned to vessel.	ea	18		
	10.2	All studs and threads to be cleaned <i>[16mm die nut]</i> and protected before shot blasting and painting commences. <i>(Suggest using garden hose pipe or strong tape to protect studs 16mm ID)</i>	ea	20		
	10.3	Broken or damaged anode studs to be replaced <i>[16mm]. Contractor to make provision</i>	ea			
	10.4	Replace new anodes in sea chest, on hull and rudder stocks on completion of	ea	18		

		painting. <i>[Owner to supply anodes, washers and nuts]</i>				
11		ANCHORS AND CHAIN				
	11.1	Lower anchors and range chains for SAMSA survey	ea	2		
	11.2	Wet grit blast anchors and chains.	ea	2		
	11.3	Contractor to make provision for a new chain	ea	2		
	11.3	Prime and Paint anchors	ea	2		
	11.4	Paint markings on chain.	ea	2		
	11.5	Coat chains with boiled linseed oil or equivalent.	ea	2		
	11.6	Contractor to make provision for a replacement with new or full-length anchor chain	ea	2		
12		TANKS				
		Contractors to open and reseal tanks using new neoprene or Vellumoid jointing. Contractors to ensure that all tanks have a valid gas free certificate before entering. All tanks to be verified gas free on daily basis. Contractors to supply own ventilation fans. Any contractors not following safe working practices will be stopped from working. Tank plugs to be removed by ships staff. Low voltage lights to be used in the tanks and				

		intrinsically safe tools to be used in the tanks. Rules for entering confined spaces to be adhered to				
	12.1	<i>FRESH WATER TANKS [Port and Starboard]</i>	m ³	2.3		
	12.1.1	Fresh water tanks to be emptied.	m ³	2.3		
	12.1.2	Fresh water tanks – manhole covers to be removed	SUM	1		
	12.1.3	Fresh Water Tanks - All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.1.4	Fresh water tanks cover mating surfaces to be mechanically cleaned and prepared.	SUM	1		
	12.1.5	New Neoprene jointing to be supplied for tank covers	SUM	1		
	12.1.6	Gas free certificate to be issued for entry into Fresh Water Tank	SUM	1		
	12.1.7	Fresh water tank to be high pressure water washed. Water to be removed and tanks dried.	SUM	1		
	12.1.8	Fresh water tank to be degreased and mechanically cleaned for inspection.	SUM	1		
	12.1.9	Fresh water tanks to be inspected by ships staff and by Appointed Paint Representative	SUM	1		

	12.1.10	On approval fresh water tank to be painted as per Appointed Paint Representative. <i>[Allow 20% coverage for quotation purposes]</i>	SUM	1		
	12.1.11	Final inspection by ships staff before tank covers are replaced.	SUM	1		
	12.1.12	Fresh water tank covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.1.13	Paint all tanks with final coat as per paint manufacturer's specification	SUM	1		
	12.1.14	Light wet sweep blasting to SA 1 to be carried out on hull <i>[It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]</i>	SUM	1		
	12.1.15	Apply primer coat to prepared exposed areas on all as per appointed paint representative's instructions.	SUM	1		
	12.2	<i>FUEL TANKS: NOTE:</i> <i>Contractor to pump out fuel and provide storage facility ± 10M³</i>				
	12.2.1	Fuel day tank-Port day tank	m³	1.3		

	12.2.2	Fuel day tank-Starboard day tank	m ³	1.3		
	12.2.3	Fuel Oil double bottom fuel tank -No 4	m ³	4.6		
	12.2.4	Fuel Oil double bottom fuel tank -No 6	m ³	6.7		
	12.2.5	Fuel Oil double bottom fuel tank -No 7	m ³	6.7		
	12.2.6	Contractor to make provision and or install flow meter gauges on both Port & STB day tanks	m ³	10		
	12.2.7	Fuel tanks covers to be removed/opened	EA	5		
	12.2.8	Fuel Tanks to be opened	Sum	1		
	12.2.9	Fuel Tanks All studs, nuts and bolts to be cleaned and buffed.	Sum	1		
	12.2.10	Fuel Tanks covers mating surfaces to be mechanically cleaned and prepared.	Sum	1		
	12.2.11	New oil resistant Vellumoid jointing to be supplied for Fuel Tanks covers.	Sum	1		
	12.2.12	Gas free certificate to be issued for before entry into Fuel Tanks	Sum	1		
	12.2.13	Fuel Tanks All studs, nuts and bolts to be cleaned and buffed.	Sum	1		

	12.2.14	Fuel Tanks covers mating surfaces to be mechanically cleaned and prepared.	Sum	1		
	12.2.15	New oil resistant Vellumoid jointing to be supplied for Fuel Tanks covers.	Sum	1		
	12.2.16	Gas free certificate to be issued for before entry into Fuel Tanks	Sum	1		
	12.2.17	Fuel Tank to be cleaned for SAMSA inspection	Sum	1		
	12.2.18	Fuel Tank to be inspected by ships staff	Sum	1		
	12.2.19	Fuel Tank inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	Sum	1		
	12.2.20	Final inspection by ships staff before covers are replaced.	Sum	1		
	12.2.21	Fuel Double Bottom and day Tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	Sum	1		
12.3		Grey /black water tank Contractor to pump out grey/black water and provide disposal facility ± 2M³ and dispose of grey/black water and provide disposal certificate.				
	12.3.1	Grey/black water tanks to be emptied.	M3	1.83		

	12.3.2	Remove all pipe work to open tank	SUM	1		
	12.3.3	Grey/black water tanks covers to be removed	SUM	1		
	12.3.4	Grey/black water tanks All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.3.5	Gas free certificate to be issued for before entry into grey/black water tank	SUM	1		
	12.3.6	Grey/black water tanks to be cleaned for SAMSA inspection	SUM	1		
	12.3.7	Grey/black water tanks to be inspected by ships staff	SUM	1		
	12.3.8	Grey/black water tanks inspection to be carried out by SAMSA [<i>New gas free certificate before entry to be supplied by contractor</i>]	SUM	1		
	12.3.9	Final inspection by ships staff before covers are replaced.	SUM	1		
	12.3.10	Grey/black water tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.3.11	Grey/black water tanks replace neoprene gasket	SUM	1		
	12.3.12	Grey/black water tanks replace all pipe work on completion	SUM	1		
12.4		DIRTY OIL TANK	M ³	1.265		

		Contractor to pump out Dirty oil tank and provide disposal facility $\pm$ 2M³ and dispose of dirty oil and provide disposal certificate.				
	12.4.1	Dirty oil tanks to be emptied.	SUM	1		
	12.4.2	Remove all pipe work to open tank	SUM	1		
	12.4.3	Dirty oil tanks covers to be removed	SUM	1		
	12.4.4	Dirty oil tanks all studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.4.5	Gas free certificate to be issued for before entry into oily water tank	SUM	1		
	12.4.6	Dirty oil tanks to be cleaned for SAMSA inspection	SUM	1		
	12.4.7	Dirty oil tanks to be inspected by ships staff	SUM	1		
	12.4.8	Dirty oil tanks inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	SUM	1		
	12.4.9	Final inspection by ships staff before covers are replaced.	SUM	1		
	12.4.10	Dirty oil tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		

	12.4.11	Dirty oil tanks replace neoprene gasket	SUM	1		
	12.4.12	Dirty oil tanks replace all pipe work on completion	SUM	1		

13		PROPULSION				
	13.1	Propellers to be cleaned and polished	ea	2		
	13.2	Shaft clearance to be taken before shafts are drawn. Report to be submitted for SAMSA survey	ea	2		
	13.3	Propeller shafts to be drawn	ea	2		
	13.4	Shafts straightness tests to be done in contractor workshop	ea	2		
	13.5	Non Destructive testing to check for cracks.	ea	2		
	13.6	Shaft measurements to be taken. Report to be submitted for SAMSA survey	ea	2		
	13.7	Blueing of the shaft and the propeller to be done and inspected by CMEQ and SAMSA surveyor	ea	2		
	13.8	Blueing of the shaft and the coupling to be done and inspected by CMEQ and SAMSA surveyor	ea	2		
	13.9	Cutless bearing measurements to be taken when shafts are drawn	ea	2		

	13.10	Cutless bearings to be replaced with new Vesconite machined bearings	ea	2		
	13.11	When the shaft is assembled, stern tubes seals and white metal bearings to be fitted, specification will be provided by the owner. Contractor to supply new stern tube seals	ea	4		
	13.12	Contractor to check for leaks on Stern Tubes after seals are fitted and system filled with oil	ea	4		
14		SHIPS VALVES				
	14.1	<i>Valves to be dismantled for SAMSA inspection and refurbished. Machine, lapin/machine valve and seats as required. New jointing and packing to be used. Jointing between valve and ships side/sea chest to be renewed after cleaning flanges. Stainless steel bolts and nuts to be used where mild steel are found. All valve and strainer insides to paint with Apexior 3 or equivalent. All valve openings to exterior to be blanked off to stop ingress of shot blast and paint. All mating surfaces, studs and nuts to be examined for signs of corrosion.</i>				
	14.1.1	Port sea water inlet valve to strainer (butterfly valve) (DN 200)	ea	1		

	14.1.2	Stb'd sea water inlet valve to strainer (butterfly valve) (DN 200)	ea	1		
	14.1.3	<i>Water manifold need to be removed to get to the sea chest valves, pipe work and other valves</i>	EA	2		
	14.1.4	Remove sea valves in entirety	EA	15		
	14.1.5	All openings to be blanked off to stop ingress of shot blast/paint	EA	15		
	14.1.6	Valve/sea chest mating surfaces to be cleaned, prepared and inspected for damage and/or corrosion.	EA	15		
	14.1.7	All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	14.1.8	Sea chest tops to be degreased, mechanically cleaned and painted with a suitable primer paint with a corrosion inhibitor and final top coat	SUM	1		
	14.1.9	Dismantle and refurbish valves, including cleaning and painting, lapping-in valve seats/disks or machining same where necessary.	SUM	1		
	14.1.10	Valve parts too inspected by vessel CME before assembly. Valve bodies, valve spindles, valve disks and seats to be inspected for damage and all valve spindle threads checked. Condition of gland followers and gland studs to be inspected. [Confirm with SAMSA surveyor if he wants a visual	SUM	1		

		inspection of valves before assembly and value/time of pressure test.				
	14.1.11	Reassemble all valves with new joints and new gland packing.	EA	15		
	14.1.12	Pressure test all sea valves on the gland side to 2 bar for a minimum 5 minutes. CMEQ to witness tests. <i>[Valves should be closed by hand and then "nipped up" for the pressure test. Over tightened valves will not be accepted]</i>	SUM	1		
	14.1.13	On satisfactory completion of pressure test, valves to be presented to SAMSA surveyor for inspection. <i>[Should any valves fail SAMSA inspection, further SAMSA costs to be borne by contractor]</i>	SUM	1		
	14.1.14	Refit valves using new KLINGER jointing and stainless steel nuts and bolts.	SUM	1		
	14.1.15	Report for valves to be submitted for record purposes	SUM	1		
15.0		VALVES				
	15.1	OVERBOARD VALVES				
	15.1.1	Overboard Fire line valve (65mm) SDNR Globe valve	ea	1		
	15.1.2	Bilge Overboard Valve (40mm) SDNR Globe valve	ea	1		

	15.1.3	Black Water and Grey water overboard valve(40mm) SDNR Globe valve	ea	1		
	15.1.4	Port main engine sea water overboard valve(65mm) SDNR Globe valve	ea	1		
	15.1.5	Stb'd main engine sea water overboard valve(65mm) SDNR Globe valve	ea	1		
	15.1.6	Port generator sea water overboard valve(32mm) SDNR Globe valve	ea	1		
	15.1.7	Stb'd generator sea water overboard valve(32mm) SDNR Globe valve	ea	1		
	15.1.7	Oily water separator overboard valve(25mm) SDNR Globe valve	ea	1		
	15.1.8	Chain locker overboard valve (40mm) SDNR Globe valve	ea	1		
	15.1.9	Port Generator overboard valve NRN(DN100)	ea	1		
	15.1.10	Starboard Generator overboard valve NRN(DN100)	ea	1		
	15.1.11	Remove overboard valves in entirety	SUM	1		
	15.1.12	All openings to be blanked off to stop ingress of shot blast/paint	SUM	1		

	15.1.13	Valve/hull mating surfaces to be cleaned, prepared and inspected for damage and/or corrosion.	SUM	1		
	15.1.14	All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	15.1.15	Dismantle and Refurbish valves, including cleaning and painting, lapping-in valve seats/disks or machining same where necessary. Rubber to be renewed on non-return flap valves.	SUM	1		
	15.1.16	Valve parts to be inspected by TNPA representative before assembly. Valve bodies, valve spindles, valve disks and seats to be inspected for damage and all valve spindle threads checked. Condition of gland followers and gland studs to be inspected. [Confirm with SAMSA surveyor if he wants a visual inspection of valves before assembly and value/time of pressure test.	SUM	1		
	15.1.17	Contractor to make provision for all valve/s that require renewal/replacement.	SUM	1		
	15.1.18	Reassemble all valves with new joints and new gland packing.	SUM	1		
	15.1.19	Pressure test all overboard valves on the water side to 2 bar for a minimum 5 minutes. TNPA representative to witness tests. <i>[Valves should be closed by hand and then "nipped up" for the</i>	SUM	1		

		<i>pressure test. Over tightened valves will not be accepted]</i>				
	15.1.20	On satisfactory completion of pressure test, valves to be presented to SAMSA surveyor for inspection. <i>[Should any valves fail SAMSA inspection, further SAMSA costs to be borne by contractor]</i>	SUM	1		
	15.1.21	Refit valves using new KLINGER jointing and stainless steel nuts and bolts.	SUM	1		
	15.1.22	Report for valves to be submitted for record purposes	SUM	1		
	15.1.23	During flooding valves to be left in open position and checked for leaks and rectified if leaking by contractor.	SUM	1		
16.0		ANCHOR CHAIN LOCKERS	M ³	5		
	16.1	CHAIN LOCKERS				
	16.1.1	Chain lockers to be opened for inspection. High pressure washed and cleaned for SAMSA inspection. Touch-up paintwork as required. Gratings to be removed and refitted.	SUM	1		
	16.1.2	On completion of painting chain lockers, anchor chains to be brought back on-board.	SUM	1		

	16.1.3	Final inspection by ships staff before chain locker covers is replaced.	SUM	1		
	16.1.4	Anchor locker covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	16.1.5	Contractor to make provision for new capstan/s and installations.	SUM	1		
17.0		HULL THICKNESS TESTING				
	17.1	THICKNESS TESTING				
	17.1.1	To do thickness testing as per SAMSA Requirement, plus or minus 80 points per vessel. Port and Stbd hull	SUM	1		
	17.1.2	Hull thickness report to be submitted for SAMSA survey	SUM	1		
18		NAVIGATION				
	18.1	NAVIGATION EQUIPMENT				
	18.1.1	Remove existing equipment including cabling	SUM	1		
	18.1.2	Replace navigation equipment with the latest updated models available in the market in accordance to Class requirements,	SUM	1		

		Equipment to be replaced, but not limited to. Echo sounder Radar AIS SART Epirb GMDSS handheld radios SSB radio with antennae GMDSS VHF radio with antennae Anemometer Compass Navtex Talkback/ intercom Clock Inclinometer Chargers for radios and communications				
	18.1.3	All manuals for navigation equipment fitted to be supplied to craft in electronic form and printed form	SUM	1		
	18.1.4	Drawings for new antennae plan and all electrical schematics for equipment fitted to be supplied in printed and electronic form	SUM	1		

	18.1.5	Commission and certify equipment in accordance to Class requirements	SUM	1		
	18.2	NAVIGATION LIGHTS				
	18.2.1	Remove all Navigation lights and cabling from mast to panel in wheelhouse	SUM	1		
	18.2.2	Install all new navigation lights on mast and rewire with new cabling	SUM	1		
	18.2.3	Install new navigation switch panel as per Class requirements.	SUM	1		
	18.2.4	New electrical schematics for navigational lights to be submitted in printed and electronic format	SUM	1		
	18.2.5	Certificates for navigational lights to be submitted for new navigational lights	SUM	1		
	18.2.6	Commission and certify equipment in accordance to Class requirements	SUM	1		
19		WHEELHOUSE				
	19.1	Bridge chairs for skippers to be removed and new to replaced	ea	2		
	19.2	Old flooring in wheelhouse to be removed and new flooring to be fitted to wheelhouse	m ²	10		
	19.3	Seating arrangements in wheelhouse to be removed and new seating to be installed.	SUM	1		

	19.4	All bridge or wheelhouse accessories to fitted with new.	<i>SUM</i>	1		
20		ACCOMODATION				
	20.1	Bunks in sleeping accommodation to be removed and new bunks to be installed	<i>SUM</i>	6		
	20.2	New mattress to be supplied to fit bunks	<i>SUM</i>	6		
	20.3	Old galley cupboards to be removed and new cupboards to be installed	<i>SUM</i>	4		
	20.4	New basins in galley to be fitted	<i>SUM</i>	2		
	20.5	New taps and plumbing to be installed in galley area (entire system)	<i>SUM</i>	4		
	20.6	Showers area to be retiled and bulkheads repainted	<i>SUM</i>	1		
	20.7	Old toilets to be removed and new toilets to be fitted with new plumbing	<i>SUM</i>	2		
	20.8	Old geyser to be removed and new 100 litre geyser to be fitted.	<i>EA</i>	1		
	20.9	Renew all copper piping and fittings for hot water system	<i>SUM</i>	1		
21		ENGINE ROOM				
	21.1	MAIN ENGINES				
	21.1.1	Port and Stbd main engines to be removed	<i>EA</i>	2		

	21.1.2	New similar spec engines to be supplied and fitted in place of old. Specifications to be taken from old engines	<i>ea</i>	2		
	21.2	GEARBOXES				
	21.2.1	Port and Stbd gearboxes to be removed	<i>ea</i>	2		
	21.2.2	New similar spec gearboxes to be supplied and fitted in place of old	<i>ea</i>	2		
	21.3	INSTALLATION OF MAIN ENGINES AND GEARBOXES				
	21.3.1	Engines and gearboxes to be able to sync together on installation	<i>SUM</i>	1		
	21.3.2	Contractor to arrange alignment to be done for engines and gearboxes	<i>SUM</i>	1		
	21.3.3	Crane to arranged for the removal and on loading of engines and gearboxes into engine room	<i>SUM</i>	1		
	21.3.4	All piping to be modified to fit new installed engines and gearboxes	<i>SUM</i>	1		
	21.3.5	Engines and gearboxes to be chockfast in position	<i>SUM</i>	1		
	21.3.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		

	21.4	AUXILLARY ENGINES				
	21.4.1	Port and Stbd complete gensets to be removed	<i>ea</i>	2		
	21.4.2	New similar spec complete gensets to be supplied and fitted in place of old. Specifications to be taken from old engines and alternator	<i>ea</i>	2		
	21.4.3	Crane to arranged for the removal and on loading of gensets into engine room	<i>SUM</i>	1		
	21.4.4	All piping to be modified to fit new installed genset	<i>SUM</i>	1		
	21.4.5	New cabling as per original specifications to be supplied for cable to electric board	<i>SUM</i>	1		
	21.4.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	21.5	PUMPS AND MOTORS				
	21.5.1	All pumps and motors in engine room to be removed and replaced with similar spec pumps and motors	<i>SUM</i>	1		
	21.5.2	Motors to be rewired with new cabling	<i>SUM</i>	1		
22		STEERING SYSTEM				
	22.1	Rudder clearances to be taken before rudders are removed.	<i>SUM</i>	1		

		Report to be submitted for SAMSA survey				
	22.2	Rudders to be removed for shaft removal	<i>SUM</i>	1		
	22.3	Rudders stocks to be removed and shafts and bushes to be inspected.	<i>SUM</i>	1		
	22.4	New bearings and seals to be replaced on Port and Stbd rudder stocks	<i>SUM</i>	1		
	22.5	Rudder hydraulic pistons to be overhauled	<i>SUM</i>	1		
	22.6	All hydraulic piping on Steering system to be replaced with new	<i>SUM</i>	1		
	22.7	Oil to be drained from hydraulic tank and tank to be cleaned	<i>SUM</i>	1		
	22.8	New oil to be replenished when all overhauling on Steering system is done	<i>SUM</i>	1		
	22.9	Rudders to be re installed when propeller shafts are fitted	<i>SUM</i>	1		
23		ELECTRICAL				
	23.1	All electrical boards to be cleaned out and breakers checked and replaced	<i>SUM</i>	1		
	23.2	All motor DB boards to be checked and breakers replaced	<i>SUM</i>	1		

	23.3	Fans and fan motors to be replaced and rewired with new cabling	<i>SUM</i>	1		
	23.4	All lighting to be replaced with suitable LED type light fittings	<i>SUM</i>	1		
	23.5	All electrical sockets throughout the craft to be replaced	<i>SUM</i>	1		
	23.6	All batteries for emergency and radio comms to be replaced	<i>SUM</i>	1		
	23.7	All batteries for engine start to be replaced	<i>SUM</i>	1		
	23.8	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	23.9	Electrical insulation test to be done on all electrical equipment and report to be submitted	<i>SUM</i>	1		
	23.10	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
24		MONITORING SYSTEM				
	24.1	New updated monitoring system to be installed for all engine and alternator engine monitoring inclusive of Bridge & Engine Room control stations	ea	1		
	24.2	Commission and certify equipment in accordance to SAMSA/Class requirements	<i>SUM</i>	1		

25		FIRE FIGHTING SYSTEMS				
	25.1	Old fire detection system to be removed and new fire detection system as per SAMSA /Class to be installed	<i>SUM</i>	1		
	25.2	New detectors throughout the craft to be replaced and new detectors fitted	<i>SUM</i>	1		
	25.3	New cabling to be installed for new detection system installation	<i>SUM</i>	1		
	25.4	Commission and certify equipment in accordance to Class requirements. Report to be submitted	<i>SUM</i>	1		
	25.5	CO2 bottles to be renewed	<i>SUM</i>	1		
	25.6	Piping to be renewed for installation of CO2 system	<i>SUM</i>	1		
	25.7	Commission and certify equipment in accordance to Class requirements. Report to be submitted	<i>SUM</i>	1		
	25.8	All Various fire extinguishers to be renewed as per the craft safety plan	<i>SUM</i>	1		
	25.9	Fire hydrants to be renewed	<i>SUM</i>	1		
	25.10	Fire hoses and fire nozzles to be renewed	<i>SUM</i>	1		
26	26.1	PIPE WORK, FENDERS, SCAFFOLDING & STEEL				

		WORK				
	26.1.1	Erect safe access scaffolding to vessel.	SUM	1		
	27.1.2	Arrange for hot work permit before hot work	SUM	1		
	26.1.3	Erect scaffolding on in accessible heights	SUM	1		
	26.1.4	Contractor to make provision for steel work (including piping) (8 000kg steel per craft) [all pipes to be schedule 40 and galvanised] Only Class approved grade steel shall be used.	SUM	1		
27	27.1	WATER management				
	27.1.1	Supply water for blasting and cleaning	SUM	1		
28	28.1	WASTE management				
	28.1.1	Provide waste collection and disposal facilities.	SUM	1		
29	29.1	SAMSA (TNPA + Contractor to agree on the specific dates) Contractor to book surveys with SAMSA.				
	29.1.1	Contractor to make provision for SAMSA to inspect hull before painting	SUM	1		
	29.1.2	Contractor to make provision for SAMSA to inspect sea and overboard valves	SUM	1		

	29.1.3	Contractor to make provision for SAMSA to inspect tank + valve mating surfaces	SUM	1		
	29.1.4	Contractor to make provision for SAMSA to inspect propellers	SUM	1		
	29.1.5	Contractor to make provision for SAMSA to inspect hull prior to filling of dry-dock. Issue of new Dry-docking certificate.	SUM	1		
	29.1.6	Contractor to make provision for SAMSA to give guidance on Thickness testing requirements and shaft testing.	SUM	1		
30	30.1	GAS FREE CERTIFICATE				
	30.1.1	CHEMIST to test and issue gas free certificates for tank entry and hot work permits.	SUM	1		
	30.1.2	Valid gas free certificate to be provided before when working on enclosed spaces Valid gas free certificate for day of SAMSA inspections.	SUM	1		
31	31.1	DRYDOCK				
	31.1.1	Hire of shore cranes, cherry pickers and Hyster. Contractor to supply crane.	SUM	1		
	31.1.2	Arrange 380v 3 phase shore supply + extension cable	SUM	1		
	31.1.3	Arrange ablution facilities	SUM	1		

	31.1.4	Arrange fire main supply	SUM	1		
	31.1.5	Arrange divers for the docking day	SUM	1		
	31.1.6	Contractor to supply rigging equipment.	SUM	1		
	31.1.7	Contractor to book docking facility and make provision to complete works as specified	SUM	1		
32	32.1	HOT WORK				
	32.1.1	Supply fire marshal	SUM	1		
	32.1.2	Supply hot work permit	SUM	1		
	32.1.3	Supply safety officer	SUM	1		
33	33.1	FENDERS				
	33.1.1	Remove and refit horizontal fender.	SUM	1		
	33.1.2	Remove and refit vertical fenders.	SUM	1		
	33.1.3	Renew fender locating pins as required.	SUM	1		
	33.1.4	Straighten fender locating pins as required.	SUM	1		
	33.1.5	Renew vertical fender palms as required.	SUM1	1		
	33.1.6	Repairs to stern horizontal fender housing.	SUM	1		
	33.1.7	Miscellaneous repairs to stern section.	SUM	1		

	33.1.8	Structural repair to belting port and stb'd side.	SUM	1		
	33.1.9	Structural repairs to port and stb'd fender boxes.	SUM	1		
34	34.1	BILGES	M ²	60		
	34.1.1	Pump engine room bilges dry	SUM	1		
	34.1.2	Clean engine room bilges	SUM	1		
	34.1.3	Provide disposal certificate of the bilge water and sludge	SUM	1		
	34.1.4	Clean all areas contaminated by the bilge pumping process	SUM	1		
35	35.1	WATERTIGHT APARTMENTS				
	35.1.2	Watertight doors and potholes	SUM	1		
	35.1.3	Contractor to make provision to make replace all watertight door in accordance to SAMSA/Classification societies	SUM	1		
	35.1.4	To clean all water tight doors rubber grooves and fit new rubbers on potholes and water tight doors. <i>Contractor to supply rubber material.</i>	SUM	1		

36	36.1	HARBOUR TRIALS				
	36.1.1	Contractor to make provisions and undertake Harbour & Sea-Trails	SUM	1		
	36.1.2	Contractor to ensure and make provision that all craft certifications are updated in accordance to SAMSA regulations and hand over to TNPA.	SUM	1		
PILOT BOAT PETREL TOTAL (EXCL. VAT)						

PILOT BOAT BALLITO

BILL 04

ITEM	SUB ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1		EXTERNAL HULL CLEANING				
	1.1	HULL CLEANING				
	1.1.1	Scrape and high pressure water wash hull exterior. Clean dock and dispose of the barnacles. All high pressure washing to be done with suitable equipment of minimum 220 bar pressure	m ²	305		
	1.2	HULL GRIT BLASTING NOTE: All windows to be securely covered with hardboard before grit blasting	m ²	305		
	1.2.1	(SA1 = Will remove lifting rust and paint. 1 nozzle/hour = 15 m ²) (SA2.0 = Down to bare metal over 80% of hull). (SA2.5 = At least 95% of the surface shall be clean bare steel with at least 90% of any 25mm square clean bare steel. 1 nozzle/hour = 7 m ²). All grit blasting to be conducted in conjunction with the appointed paint representative. This will	m ²	305		

		include the decision as to whether to carry out a SA1.0 or SA2.5 grit blast. Contractors will be responsible for the cleaning and removal of all spent grit from dry-dock and the legal disposal of such.				
	1.2.2	Light wet sweep blasting to SA 1 to be carried out on hull [It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]	m ²	305		
2		EXTERNAL SUPERSTRUCTURE CLEANING				
	2.1	Wet spot grit blasting to SA 1 to be carried out on superstructure, including masts, hook, windlass and other fixtures. <i>It may be necessary to blast certain areas to SA 2.5, allow 15% for this</i> [Contractors to ensure all glass areas are covered and protected against damage from shot blast] [Contractors to supply own certified scaffolding if required][Copies of safety Certificates of any safety equipment to be available to the vessel for the duration of the dry-dock, this includes scaffolding, safety harness etc.] Water wash all sand blasted areas to remove all grit before painting	m ²	80		

3		MAIN DECK AND MONKEY ISLAND CLEANING				
	3.1	Wet spot grit blasting to SA 1 to be carried out on main deck, monkey island deck.[It may be necessary to blast certain areas to SA2.5, allow 15% for this] <i>[Contractors to ensure all glass areas are covered and protected against damage from shot blast] [Contractors to supply own certified scaffolding if required][Copies of safety Certificates of any safety equipment to be available to the vessel for the duration of the dry-dock, this includes scaffolding, safety harness etc.] Water wash all sand blasted areas to remove all grit before painting</i>	m ²	166		
4		SEA CHESTS AND GRIDS				
	4.1	Remove ships intake grids (two in number).	EA	2		
	4.2	Mark grids for easy installation	EA	2		
	4.3	Scrape and high pressure wash inside sea chests and sea chest grids.	EA	2		
	4.4	Damaged Intake Grid bolts and threads to be repaired and/or replaced. Broken bolt threads too be removed from holes. <i>[Bolts are stainless steel]</i>	EA	10		

	4.5	Spray paint inside sea chests and grids as per hull specifications	m ²	50		
	4.6	Remove anodes and replace anodes inside sea chests after painting [Ref : Hull painting]	EA	2		
	4.7	Replace grids upon completion of painting [Ref : Hull painting]	EA	2		
	4.8	All sea chest grid bolts to be rewired with stainless steel wire [Wire to be supplied by CONTRACTOR]	ROLLS	2		
5		HULL PAINTING [On Completion of blasting and mechanically cleaning] NOTE: Paint specs requirements might change by paint specialist. Painters to follow specialist advise.				
	5.1	Apply a coat primer paint as per appointed paint representative's instructions to hull exterior, including underwater and side areas, sea chests, and hawser pipes.	m ²	305		
	5.2	Apply a coat key paint as per appointed paint representative's instructions to hull exterior, including underwater, sea chests, and hawser pipes.	m ²	305		
	5.3	Apply first anti-fouling paint as per appointed paint representative's instructions to	m ²	305		

		hull exterior up to and including the waterline. To include underwater and side areas, sea chests, hawser pipes.				
	5.4	Apply second anti-fouling paint as per appointed paint representative's instructions to hull exterior up to and including the waterline. To include underwater and side areas, sea chests, hawser pipes.	m ²	305		
6		ABOVE WATER LINE PAINTING				
	6.1	Apply a coat primer paint as per appointed paint representative's instructions to hull exterior above waterline.	m ²	166		
	6.2	Apply coat [black] as per appointed paint representative's instructions to hull exterior above waterline. To include hawser pipes.	m ²	166		
	6.3	Paint vessel names, port of registration and draft marks In white. Port and stb'd side	SUM	1		
7		SUPERSTRUCTURE PAINTING				
	7.1	Apply primer coat to prepared exposed areas on superstructure and all decks as per appointed paint representative's instructions.	m ²	200		

	7.2	Apply final coat [white] as per appointed paint representatives instructions to complete superstructure, including mast.	m ²	200		
8		MAIN DECK AND MONKEY ISLAND PAINTING				
	8.1	Apply primer coat to prepared exposed areas all decks as per appointed paint representative's instructions	m ²	170		
	8.2	Apply coat deck green as per appointed paint representative's instructions to all decks.	m ²	170		
	8.3	Paint all decks with final coat green paint as per manufacturer's specification and put non-slip sand on decks.	m ²	166		
	8.4	Light wet sweep blasting to SA 1 to be carried out on hull <i>[It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]</i>	M2	166		
9		DECK AUXILLIARY EQUIPMENT PAINTING				
	9.1	Apply primer coat to prepared exposed areas on all deck auxiliary equipment as per appointed paint representative's instructions.	M2	305		

	9.2	Paint all deck auxiliary equipment such as winches, anchor windlass and fit denzo tape on metal fittings.(established on site briefing)	M2	305		
	9.3	Light wet sweep blasting to SA 1 to be carried out on hull. <i>[It may be necessary to spot blast certain areas to SA 2.5, allow 15% for this]</i>	M2	305		
	9.4	Contractor to overhaul and or refurbish and commission the existing capstan	SUM	1		
10		ANODES				
	10.1	All old anodes to be removed from hull, sea chests and rudder stocks before shot blasting and returned to vessel.	ea	18		
	10.2	All studs and threads to be cleaned <i>[16mm die nut]</i> and protected before shot blasting and painting commences. <i>(Suggest using garden hose pipe or strong tape to protect studs 16mm ID)</i>	ea	20		
	10.3	Broken or damaged anode studs to be replaced <i>[16mm]. Contractor to make provision</i>	ea			
	10.4	Replace new anodes in sea chest, on hull and rudder stocks on completion of	ea	18		

		painting. <i>[Owner to supply anodes, washers and nuts]</i>				
11		ANCHORS AND CHAIN				
	11.1	Lower anchors and range chains for SAMSA survey	ea	2		
	11.2	Wet grit blast anchors and chains.	ea	2		
	11.3	Contractor to make provision for a new chain	ea	2		
	11.3	Prime and Paint anchors	ea	2		
	11.4	Paint markings on chain.	ea	2		
	11.5	Coat chains with boiled linseed oil or equivalent.	ea	2		
	11.6	Contractor to make provision for a replacement with new or full-length anchor chain	ea	2		
12		TANKS				
		Contractors to open and reseal tanks using new neoprene or Vellumoid jointing. Contractors to ensure that all tanks have a valid gas free certificate before entering. All tanks to be verified gas free on daily basis. Contractors to supply own ventilation fans. Any contractors not following safe working practices will be stopped from working. Tank				

		plugs to be removed by ships staff. Low voltage lights to be used in the tanks and intrinsically safe tools to be used in the tanks. Rules for entering confined spaces to be adhered to				
	12.1	<i>FRESH WATER TANKS [Port and Starboard]</i>	m ³	2.3		
	12.1.1	Fresh water tanks to be emptied.	m ³	2.3		
	12.1.2	Fresh water tanks – manhole covers to be removed	SUM	1		
	12.1.3	Fresh Water Tanks - All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.1.4	Fresh water tanks cover mating surfaces to be mechanically cleaned and prepared.	SUM	1		
	12.1.5	New Neoprene jointing to be supplied for tank covers	SUM	1		
	12.1.6	Gas free certificate to be issued for entry into Fresh Water Tank	SUM	1		
	12.1.7	Fresh water tank to be high pressure water washed. Water to be removed and tanks dried.	SUM	1		
	12.1.8	Fresh water tank to be degreased and mechanically cleaned for inspection.	SUM	1		

	12.1.9	Fresh water tanks to be inspected by ships staff and by Appointed Paint Representative	SUM	1		
	12.1.10	On approval fresh water tank to be painted as per Appointed Paint Representative. <i>[Allow 20% coverage for quotation purposes]</i>	SUM	1		
	12.1.11	Final inspection by ships staff before tank covers are replaced.	SUM	1		
	12.1.12	Fresh water tank covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.1.13	Paint all tanks with final coat as per paint manufacturer's specification	SUM	1		
	12.1.14	Light wet sweep blasting to SA 1 to be carried out on hull <i>[It may be necessary to spot blast certain areas to SA2.5, allow 15% for this]</i>	SUM	1		
	12.1.15	Apply primer coat to prepared exposed areas on all as per appointed paint representative's instructions.	SUM	1		
	12.2	<i>FUEL TANKS: NOTE:</i> <i>Contractor to pump out fuel and provide storage facility ± 10M³</i>				
	12.2.1	Fuel day tank-Port day tank	m³	1.3		

	12.2.2	Fuel day tank-Starboard day tank	m ³	1.3		
	12.2.3	Fuel Oil double bottom fuel tank -No 4	m ³	4.6		
	12.2.4	Fuel Oil double bottom fuel tank -No 6	m ³	6.7		
	12.2.5	Fuel Oil double bottom fuel tank -No 7	m ³	6.7		
	12.2.6	Contractor to make provision and or install flow meter gauges on both Port & STB day tanks	m ³	10		
	12.2.7	Fuel tanks covers to be removed/opened	EA	5		
	12.2.8	Fuel Tanks to be opened	Sum	1		
	12.2.9	Fuel Tanks All studs, nuts and bolts to be cleaned and buffed.	Sum	1		
	12.2.10	Fuel Tanks covers mating surfaces to be mechanically cleaned and prepared.	Sum	1		
	12.2.11	New oil resistant Vellumoid jointing to be supplied for Fuel Tanks covers.	Sum	1		
	12.2.12	Gas free certificate to be issued for before entry into Fuel Tanks	Sum	1		
	12.2.13	Fuel Tanks All studs, nuts and bolts to be cleaned and buffed.	Sum	1		

	12.2.14	Fuel Tanks covers mating surfaces to be mechanically cleaned and prepared.	Sum	1		
	12.2.15	New oil resistant Vellumoid jointing to be supplied for Fuel Tanks covers.	Sum	1		
	12.2.16	Gas free certificate to be issued for before entry into Fuel Tanks	Sum	1		
	12.2.17	Fuel Tank to be cleaned for SAMSA inspection	Sum	1		
	12.2.18	Fuel Tank to be inspected by ships staff	Sum	1		
	12.2.19	Fuel Tank inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	Sum	1		
	12.2.20	Final inspection by ships staff before covers are replaced.	Sum	1		
	12.2.21	Fuel Double Bottom and day Tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	Sum	1		
12.3		Grey /black water tank Contractor to pump out grey/black water and provide disposal facility ± 2M³ and dispose of grey/black water and provide disposal certificate.				
	12.3.1	Grey/black water tanks to be emptied.	M3	1.83		

	12.3.2	Remove all pipe work to open tank	SUM	1		
	12.3.3	Grey/black water tanks covers to be removed	SUM	1		
	12.3.4	Grey/black water tanks All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.3.5	Gas free certificate to be issued for before entry into grey/black water tank	SUM	1		
	12.3.6	Grey/black water tanks to be cleaned for SAMSA inspection	SUM	1		
	12.3.7	Grey/black water tanks to be inspected by ships staff	SUM	1		
	12.3.8	Grey/black water tanks inspection to be carried out by SAMSA [<i>New gas free certificate before entry to be supplied by contractor</i>]	SUM	1		
	12.3.9	Final inspection by ships staff before covers are replaced.	SUM	1		
	12.3.10	Grey/black water tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	12.3.11	Grey/black water tanks replace neoprene gasket	SUM	1		
	12.3.12	Grey/black water tanks replace all pipe work on completion	SUM	1		

12.4		DIRTY OIL TANK Contractor to pump out Dirty oil tank and provide disposal facility ± 2M³ and dispose of dirty oil and provide disposal certificate.	M³	1.265		
	12.4.1	Dirty oil tanks to be emptied.	SUM	1		
	12.4.2	Remove all pipe work to open tank	SUM	1		
	12.4.3	Dirty oil tanks covers to be removed	SUM	1		
	12.4.4	Dirty oil tanks all studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	12.4.5	Gas free certificate to be issued for before entry into oily water tank	SUM	1		
	12.4.6	Dirty oil tanks to be cleaned for SAMSA inspection	SUM	1		
	12.4.7	Dirty oil tanks to be inspected by ships staff	SUM	1		
	12.4.8	Dirty oil tanks inspection to be carried out by SAMSA <i>[New gas free certificate before entry to be supplied by contractor]</i>	SUM	1		
	12.4.9	Final inspection by ships staff before covers are replaced.	SUM	1		
	12.4.10	Dirty oil tanks covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		

	12.4.11	Dirty oil tanks replace neoprene gasket	SUM	1		
	12.4.12	Dirty oil tanks replace all pipe work on completion	SUM	1		

13		PROPULSION				
	13.1	Propellers to be cleaned and polished	ea	2		
	13.2	Shaft clearance to be taken before shafts are drawn. Report to be submitted for SAMSA survey	ea	2		
	13.3	Propeller shafts to be drawn	ea	2		
	13.4	Shafts straightness tests to be done in contractor workshop	ea	2		
	13.5	Non Destructive testing to check for cracks.	ea	2		
	13.6	Shaft measurements to be taken. Report to be submitted for SAMSA survey	ea	2		
	13.7	Blueing of the shaft and the propeller to be done and inspected by CMEQ and SAMSA surveyor	ea	2		
	13.8	Blueing of the shaft and the coupling to be done and inspected by CMEQ and SAMSA surveyor	ea	2		
	13.9	Cutless bearing measurements to be taken when shafts are drawn	ea	2		

	13.10	Cutless bearings to be replaced with new Vesconite machined bearings	ea	2		
	13.11	When the shaft is assembled, stern tubes seals and white metal bearings to be fitted, specification will be provided by the owner. Contractor to supply new stern tube seals	ea	4		
	13.12	Contractor to check for leaks on Stern Tubes after seals are fitted and system filled with oil	ea	4		
14		SHIPS VALVES				
	14.1	<i>Valves to be dismantled for SAMSA inspection and refurbished. Machine, lapin/machine valve and seats as required. New jointing and packing to be used. Jointing between valve and ships side/sea chest to be renewed after cleaning flanges. Stainless steel bolts and nuts to be used where mild steel are found. All valve and strainer insides to paint with Apexior 3 or equivalent. All valve openings to exterior to be blanked off to stop ingress of shot blast and paint. All mating surfaces, studs and nuts to be examined for signs of corrosion.</i>				
	14.1.1	Port sea water inlet valve to strainer (butterfly valve) (DN 200)	ea	1		

	14.1.2	Stb'd sea water inlet valve to strainer (butterfly valve) (DN 200)	ea	1		
	14.1.3	<i>Water manifold need to be removed to get to the sea chest valves, pipe work and other valves</i>	EA	2		
	14.1.4	Remove sea valves in entirety	EA	15		
	14.1.5	All openings to be blanked off to stop ingress of shot blast/paint	EA	15		
	14.1.6	Valve/sea chest mating surfaces to be cleaned, prepared and inspected for damage and/or corrosion.	EA	15		
	14.1.7	All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	14.1.8	Sea chest tops to be degreased, mechanically cleaned and painted with a suitable primer paint with a corrosion inhibitor and final top coat	SUM	1		
	14.1.9	Dismantle and refurbish valves, including cleaning and painting, lapping-in valve seats/disks or machining same where necessary.	SUM	1		
	14.1.10	Valve parts too inspected by vessel CME before assembly. Valve bodies, valve spindles, valve disks and seats to be inspected for damage and all valve spindle threads checked. Condition of gland followers and gland studs to be inspected. [Confirm with SAMSA surveyor if he wants a visual	SUM	1		

		inspection of valves before assembly and value/time of pressure test.				
	14.1.11	Reassemble all valves with new joints and new gland packing.	EA	15		
	14.1.12	Pressure test all sea valves on the gland side to 2 bar for a minimum 5 minutes. CMEQ to witness tests. <i>[Valves should be closed by hand and then "nipped up" for the pressure test. Over tightened valves will not be accepted]</i>	SUM	1		
	14.1.13	On satisfactory completion of pressure test, valves to be presented to SAMSA surveyor for inspection. <i>[Should any valves fail SAMSA inspection, further SAMSA costs to be borne by contractor]</i>	SUM	1		
	14.1.14	Refit valves using new KLINGER jointing and stainless steel nuts and bolts.	SUM	1		
	14.1.15	Report for valves to be submitted for record purposes	SUM	1		
15.0		VALVES				
	15.1	OVERBOARD VALVES				
	15.1.1	Overboard Fire line valve (65mm) SDNR Globe valve	ea	1		
	15.1.2	Bilge Overboard Valve (40mm) SDNR Globe valve	ea	1		

	15.1.3	Black Water and Grey water overboard valve(40mm) SDNR Globe valve	ea	1		
	15.1.4	Port main engine sea water overboard valve(65mm) SDNR Globe valve	ea	1		
	15.1.5	Stb'd main engine sea water overboard valve(65mm) SDNR Globe valve	ea	1		
	15.1.6	Port generator sea water overboard valve(32mm) SDNR Globe valve	ea	1		
	15.1.7	Stb'd generator sea water overboard valve(32mm) SDNR Globe valve	ea	1		
	15.1.7	Oily water separator overboard valve(25mm) SDNR Globe valve	ea	1		
	15.1.8	Chain locker overboard valve (40mm) SDNR Globe valve	ea	1		
	15.1.9	Port Generator overboard valve NRN(DN100)	ea	1		
	15.1.10	Starboard Generator overboard valve NRN(DN100)	ea	1		
	15.1.11	Remove overboard valves in entirety	SUM	1		
	15.1.12	All openings to be blanked off to stop ingress of shot blast/paint	SUM	1		

	15.1.13	Valve/hull mating surfaces to be cleaned, prepared and inspected for damage and/or corrosion.	SUM	1		
	15.1.14	All studs, nuts and bolts to be cleaned and buffed.	SUM	1		
	15.1.15	Dismantle and Refurbish valves, including cleaning and painting, lapping-in valve seats/disks or machining same where necessary. Rubber to be renewed on non-return flap valves.	SUM	1		
	15.1.16	Valve parts to be inspected by TNPA representative before assembly. Valve bodies, valve spindles, valve disks and seats to be inspected for damage and all valve spindle threads checked. Condition of gland followers and gland studs to be inspected. [Confirm with SAMSA surveyor if he wants a visual inspection of valves before assembly and value/time of pressure test.	SUM	1		
	15.1.17	Contractor to make provision for all valve/s that require renewal/replacement.	SUM	1		
	15.1.18	Reassemble all valves with new joints and new gland packing.	SUM	1		
	15.1.19	Pressure test all overboard valves on the water side to 2 bar for a minimum 5 minutes. TNPA representative to witness tests. <i>[Valves should be closed by hand and then "nipped up" for the</i>	SUM	1		

		<i>pressure test. Over tightened valves will not be accepted]</i>				
	15.1.20	On satisfactory completion of pressure test, valves to be presented to SAMSA surveyor for inspection. <i>[Should any valves fail SAMSA inspection, further SAMSA costs to be borne by contractor]</i>	SUM	1		
	15.1.21	Refit valves using new KLINGER jointing and stainless steel nuts and bolts.	SUM	1		
	15.1.22	Report for valves to be submitted for record purposes	SUM	1		
	15.1.23	During flooding valves to be left in open position and checked for leaks and rectified if leaking by contractor.	SUM	1		
16.0		ANCHOR CHAIN LOCKERS	M ³	5		
	16.1	CHAIN LOCKERS				
	16.1.1	Chain lockers to be opened for inspection. High pressure washed and cleaned for SAMSA inspection. Touch-up paintwork as required. Gratings to be removed and refitted.	SUM	1		
	16.1.2	On completion of painting chain lockers, anchor chains to be brought back on-board.	SUM	1		

	16.1.3	Final inspection by ships staff before chain locker covers is replaced.	SUM	1		
	16.1.4	Anchor locker covers to be replaced. Anti-seize paste to be used on all nuts and bolts.	SUM	1		
	16.1.5	Contractor to make provision for new capstan/s and installations.	SUM	1		
17.0		HULL THICKNESS TESTING				
	17.1	THICKNESS TESTING				
	17.1.1	To do thickness testing as per SAMSA Requirement, plus or minus 80 points per vessel. Port and Stbd hull	SUM	1		
	17.1.2	Hull thickness report to be submitted for SAMSA survey	SUM	1		
18		NAVIGATION				
	18.1	NAVIGATION EQUIPMENT				
	18.1.1	Remove existing equipment including cabling	SUM	1		
	18.1.2	Replace navigation equipment with the latest updated models available in the market in accordance to Class requirements,	SUM	1		

		Equipment to be replaced, but not limited to. Echo sounder Radar AIS SART Epirb GMDSS handheld radios SSB radio with antennae GMDSS VHF radio with antennae Anemometer Compass Navtex Talkback/ intercom Clock Inclinometer Chargers for radios and communications				
	18.1.3	All manuals for navigation equipment fitted to be supplied to craft in electronic form and printed form	SUM	1		
	18.1.4	Drawings for new antennae plan and all electrical schematics for equipment fitted to be supplied in printed and electronic form	SUM	1		

	18.1.5	Commission and certify equipment in accordance to Class requirements	SUM	1		
	18.2	NAVIGATION LIGHTS				
	18.2.1	Remove all Navigation lights and cabling from mast to panel in wheelhouse	SUM	1		
	18.2.2	Install all new navigation lights on mast and rewire with new cabling	SUM	1		
	18.2.3	Install new navigation switch panel as per Class requirements.	SUM	1		
	18.2.4	New electrical schematics for navigational lights to be submitted in printed and electronic format	SUM	1		
	18.2.5	Certificates for navigational lights to be submitted for new navigational lights	SUM	1		
	18.2.6	Commission and certify equipment in accordance to Class requirements	SUM	1		
19		WHEELHOUSE				
	19.1	Bridge chairs for skippers to be removed and new to replaced	ea	2		
	19.2	Old flooring in wheelhouse to be removed and new flooring to be fitted to wheelhouse	m ²	10		
	19.3	Seating arrangements in wheelhouse to be removed and new seating to be installed.	SUM	1		

	19.4	All bridge or wheelhouse accessories to fitted with new.	<i>SUM</i>	1		
20		ACCOMODATION				
	20.1	Bunks in sleeping accommodation to be removed and new bunks to be installed	<i>SUM</i>	6		
	20.2	New mattress to be supplied to fit bunks	<i>SUM</i>	6		
	20.3	Old galley cupboards to be removed and new cupboards to be installed	<i>SUM</i>	4		
	20.4	New basins in galley to be fitted	<i>SUM</i>	2		
	20.5	New taps and plumbing to be installed in galley area (entire system)	<i>SUM</i>	4		
	20.6	Showers area to be retiled and bulkheads repainted	<i>SUM</i>	1		
	20.7	Old toilets to be removed and new toilets to be fitted with new plumbing	<i>SUM</i>	2		
	20.8	Old geyser to be removed and new 100 litre geyser to be fitted.	<i>EA</i>	1		
	20.9	Renew all copper piping and fittings for hot water system	<i>SUM</i>	1		
21		ENGINE ROOM				
	21.1	MAIN ENGINES				
	21.1.1	Port and Stbd main engines to be removed	<i>EA</i>	2		

	21.1.2	New similar spec engines to be supplied and fitted in place of old. Specifications to be taken from old engines	<i>ea</i>	2		
	21.2	GEARBOXES				
	21.2.1	Port and Stbd gearboxes to be removed	<i>ea</i>	2		
	21.2.2	New similar spec gearboxes to be supplied and fitted in place of old	<i>ea</i>	2		
	21.3	INSTALLATION OF MAIN ENGINES AND GEARBOXES				
	21.3.1	Engines and gearboxes to be able to sync together on installation	<i>SUM</i>	1		
	21.3.2	Contractor to arrange alignment to be done for engines and gearboxes	<i>SUM</i>	1		
	21.3.3	Crane to arranged for the removal and on loading of engines and gearboxes into engine room	<i>SUM</i>	1		
	21.3.4	All piping to be modified to fit new installed engines and gearboxes	<i>SUM</i>	1		
	21.3.5	Engines and gearboxes to be chockfast in position	<i>SUM</i>	1		
	21.3.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		

	21.4	AUXILLARY ENGINES				
	21.4.1	Port and Stbd complete gensets to be removed	<i>ea</i>	2		
	21.4.2	New similar spec complete gensets to be supplied and fitted in place of old. Specifications to be taken from old engines and alternator	<i>ea</i>	2		
	21.4.3	Crane to arranged for the removal and on loading of gensets into engine room	<i>SUM</i>	1		
	21.4.4	All piping to be modified to fit new installed genset	<i>SUM</i>	1		
	21.4.5	New cabling as per original specifications to be supplied for cable to electric board	<i>SUM</i>	1		
	21.4.6	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	21.5	PUMPS AND MOTORS				
	21.5.1	All pumps and motors in engine room to be removed and replaced with similar spec pumps and motors	<i>SUM</i>	1		
	21.5.2	Motors to be rewired with new cabling	<i>SUM</i>	1		
22		STEERING SYSTEM				
	22.1	Rudder clearances to be taken before rudders are removed.	<i>SUM</i>	1		

		Report to be submitted for SAMSA survey				
	22.2	Rudders to be removed for shaft removal	<i>SUM</i>	1		
	22.3	Rudders stocks to be removed and shafts and bushes to be inspected.	<i>SUM</i>	1		
	22.4	New bearings and seals to be replaced on Port and Stbd rudder stocks	<i>SUM</i>	1		
	22.5	Rudder hydraulic pistons to be overhauled	<i>SUM</i>	1		
	22.6	All hydraulic piping on Steering system to be replaced with new	<i>SUM</i>	1		
	22.7	Oil to be drained from hydraulic tank and tank to be cleaned	<i>SUM</i>	1		
	22.8	New oil to be replenished when all overhauling on Steering system is done	<i>SUM</i>	1		
	22.9	Rudders to be re installed when propeller shafts are fitted	<i>SUM</i>	1		
23		ELECTRICAL				
	23.1	All electrical boards to be cleaned out and breakers checked and replaced	<i>SUM</i>	1		
	23.2	All motor DB boards to be checked and breakers replaced	<i>SUM</i>	1		

	23.3	Fans and fan motors to be replaced and rewired with new cabling	<i>SUM</i>	1		
	23.4	All lighting to be replaced with suitable LED type light fittings	<i>SUM</i>	1		
	23.5	All electrical sockets throughout the craft to be replaced	<i>SUM</i>	1		
	23.6	All batteries for emergency and radio comms to be replaced	<i>SUM</i>	1		
	23.7	All batteries for engine start to be replaced	<i>SUM</i>	1		
	23.8	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
	23.9	Electrical insulation test to be done on all electrical equipment and report to be submitted	<i>SUM</i>	1		
	23.10	Commission and certify equipment in accordance to Class requirements	<i>SUM</i>	1		
24		MONITORING SYSTEM				
	24.1	New updated monitoring system to be installed for all engine and alternator engine monitoring inclusive of Bridge & Engine Room control stations	ea	1		
	24.2	Commission and certify equipment in accordance to SAMSA/Class requirements	<i>SUM</i>	1		

25		FIRE FIGHTING SYSTEMS				
	25.1	Old fire detection system to be removed and new fire detection system as per SAMSA /Class to be installed	<i>SUM</i>	1		
	25.2	New detectors throughout the craft to be replaced and new detectors fitted	<i>SUM</i>	1		
	25.3	New cabling to be installed for new detection system installation	<i>SUM</i>	1		
	25.4	Commission and certify equipment in accordance to Class requirements. Report to be submitted	<i>SUM</i>	1		
	25.5	CO2 bottles to be renewed	<i>SUM</i>	1		
	25.6	Piping to be renewed for installation of CO2 system	<i>SUM</i>	1		
	25.7	Commission and certify equipment in accordance to Class requirements. Report to be submitted	<i>SUM</i>	1		
	25.8	All Various fire extinguishers to be renewed as per the craft safety plan	<i>SUM</i>	1		
	25.9	Fire hydrants to be renewed	<i>SUM</i>	1		
	25.10	Fire hoses and fire nozzles to be renewed	<i>SUM</i>	1		

26	26.1	PIPE WORK, FENDERS, SCAFFOLDING & STEEL WORK				
	26.1.1	Erect safe access scaffolding to vessel.	SUM	1		
	27.1.2	Arrange for hot work permit before hot work	SUM	1		
	26.1.3	Erect scaffolding on in accessible heights	SUM	1		
	26.1.4	Contractor to make provision for steel work (including piping) (8 000kg steel per craft) [all pipes to be schedule 40 and galvanised] Only Class approved grade steel shall be used.	SUM	1		
27	27.1	WATER management				
	27.1.1	Supply water for blasting and cleaning	SUM	1		
28	28.1	WASTE management				
	28.1.1	Provide waste collection and disposal facilities.	SUM	1		
29	29.1	SAMSA (TNPA + Contractor to agree on the specific dates) Contractor to book surveys with SAMSA.				
	29.1.1	Contractor to make provision for SAMSA to inspect hull before painting	SUM	1		

	29.1.2	Contractor to make provision for SAMSA to inspect sea and overboard valves	SUM	1		
	29.1.3	Contractor to make provision for SAMSA to inspect tank + valve mating surfaces	SUM	1		
	29.1.4	Contractor to make provision for SAMSA to inspect propellers	SUM	1		
	29.1.5	Contractor to make provision for SAMSA to inspect hull prior to filling of dry-dock. Issue of new Dry-docking certificate.	SUM	1		
	29.1.6	Contractor to make provision for SAMSA to give guidance on Thickness testing requirements and shaft testing.	SUM	1		
30	30.1	GAS FREE CERTIFICATE				
	30.1.1	CHEMIST to test and issue gas free certificates for tank entry and hot work permits.	SUM	1		
	30.1.2	Valid gas free certificate to be provided before when working on enclosed spaces Valid gas free certificate for day of SAMSA inspections.	SUM	1		
31	31.1	DRYDOCK				
	31.1.1	Hire of shore cranes, cherry pickers and Hyster. Contractor to supply crane.	SUM	1		

	31.1.2	Arrange 380v 3 phase shore supply + extension cable	SUM	1		
	31.1.3	Arrange ablution facilities	SUM	1		
	31.1.4	Arrange fire main supply	SUM	1		
	31.1.5	Arrange divers for the docking day	SUM	1		
	31.1.6	Contractor to supply rigging equipment.	SUM	1		
	31.1.7	Contractor to book docking facility and make provision to complete works as specified	SUM	1		
32	32.1	HOT WORK				
	32.1.1	Supply fire marshal	SUM	1		
	32.1.2	Supply hot work permit	SUM	1		
	32.1.3	Supply safety officer	SUM	1		
33	33.1	FENDERS				
	33.1.1	Remove and refit horizontal fender.	SUM	1		
	33.1.2	Remove and refit vertical fenders.	SUM	1		
	33.1.3	Renew fender locating pins as required.	SUM	1		
	33.1.4	Straighten fender locating pins as required.	SUM	1		
	33.1.5	Renew vertical fender palms as required.	SUM1	1		
	33.1.6	Repairs to stern horizontal fender housing.	SUM	1		

	33.1.7	Miscellaneous repairs to stern section.	SUM	1		
	33.1.8	Structural repair to belting port and stb'd side.	SUM	1		
	33.1.9	Structural repairs to port and stb'd fender boxes.	SUM	1		
34	34.1	BILGES	M ²	60		
	34.1.1	Pump engine room bilges dry	SUM	1		
	34.1.2	Clean engine room bilges	SUM	1		
	34.1.3	Provide disposal certificate of the bilge water and sludge	SUM	1		
	34.1.4	Clean all areas contaminated by the bilge pumping process	SUM	1		
35	35.1	WATERTIGHT APARTMENTS				
	35.1.2	Watertight doors and potholes	SUM	1		
	35.1.3	Contractor to make provision to make replace all watertight door in accordance to SAMSA/Classification societies	SUM	1		
	35.1.4	To clean all water tight doors rubber groves and fit new rubbers on potholes and water tight doors. <i>Contractor to supply rubber material.</i>	SUM	1		
36	36.1	HARBOUR TRIALS				
	36.1.1	Contractor to make provisions and undertake Harbour & Sea-Trails	SUM	1		
	36.1.2	Contractor to ensure and make provision that all craft certifications	SUM	1		

		are updated in accordance to SAMSA regulations and hand over to TNPA.				
PILOT BOAT BALLITO TOTAL (EXCL. VAT)						

SUMMARY TOTAL BILL 1 - 4

(PILOT BOAT GANNET+INYONI+PETREL +BALLITO) TOTAL (EXCL. VAT)	
VAT @ 15% (IF APPLICABLE)	
TOTAL (INCL. VAT)	