

**HINDUSTAN SHIPYARD LIMITED
VISAKHAPATANM-530 005.**

**ENQUIRY TECHNICAL SPECIFICATION FOR BRIDGE CONSOLE AND ECR
CONSOLE FOR 3 Nos. 50 TON BOLLARD PULL TUG FOR INDIAN NAVY - HSL
YARD NO.11162 – 64. (Revision – 2 Dt: 29.11.2011)**

1) SCOPE OF SUPPLY:

- 1.1) The supply shall include complete Bridge Console and MCR Console as per Guidance Drg. No. 99620A 1 to 2 and Annexure - A & B (including spares).
- 1.2) Two (2) sets of Final Installation Drawings of the console and internal wiring diagrams, shall be furnished after Approval of HSL and IRS Class along with the Two (2) sets of technical literature necessary for the installation, operation and maintenance of the equipment. Soft copy of final drawings to be supplied in Autocad DWG / DXF file on a CD - ROM.
- 1.3) The consoles including DBs shall be Inspected, Tested and Certified by IRS class. IRS Class Certificate and Makers Test Certificate shall be supplied in original + 2 copies.
- 1.4) The equipment is required for 3 Nos 50 Ton Bollard Pull Tractor Tug for Indian Navy our Yard No.11162 – 64.
- 1.5) The tug will be built to class rules for operation in harbour and coastal waters and island territories. Required Indian Register of Shipping (IRS) Class Notation is + SUL *TUG* + IY, AGNI 1. The vessel class notation as Fire Fighting Vessel (FFV) should meet AGNI - 1 requirements.
- 1.6) The Ambient Temperature is
 - a) Machinery Spaces : 50°C
 - b) Exterior : 40°C
 - c) Humidity : 60% at 40°C
- 1.7) **Caution Board:** Navigation 230V AC DB and 24V DC DB shall be affixed with Caution Board in a prominent position. The caution board will be red in colour with white letters.
- 1.8) **Diagram Plates:** All Electrical DB will be provided with Anodised Aluminum diagram plates, showing connections with terminal marking as on the equipment and they will be secured on the underside of the cover of the DB

2) Scope of supply and work of supplier:

- 2.1) Delivery of the complete equipment as per Para-1 above, and the following technical specification.
- 2.2) Service Engineer / Technician shall be deputed to HSL for a period of 15 working

days for fixing and wiring of HSL supplied items on the Bridge & MCR consoles.

2.3) **SCOPE OF WORK OF SHIPYARD**

- 2.3.1) Detailed dimensional and wiring diagrams for all the HSL supplied equipment / items to be mounted on the Bridge & MCR consoles shall be furnished after placement of order. Console maker shall provide fitting arrangement / wiring inside the console up to the terminals in accordance with the instructions of shipyard.
- 2.3.2) Making of the seating's necessary for the console as per the Drawings of suppliers.
- 2.3.3) Console External Wiring shall be done by Shipyard.

3) **GENERAL:**

- 3.1) The equipment in its entirety shall give complete satisfaction to the Shipyard. Any other part or parts of the equipment which are omitted in this specification, still necessary for the proper and efficient functioning of the equipment as a whole shall also be included in the scope of supply. Materials if found defective, or damaged shall be replenished in good time by the supplier or by the Shipyard on suppliers account.

4) **TECHNICAL SPECIFICATION OF BRIDGE CONSOLE:**

Bridge Consoles (Port and Stbd) and MCR console shall be supplied as below in Shipping Sections and as per the enclosed Guidance Sketch No. 99620 A.

- a) Bridge Console (Port & Stbd) with Dimensions - 2 No.
(1160 L X 1100 D X 950 H)mm.
- b) MCR Console with Dimensions - - 1 No.
(1200L X 750D X 1250H)mm.

4.1) **MECHANICAL CONSTRUCTION:**

4.1.1) **GENERAL:**

The Consoles are meant for installation in the bridge and in Machinery Control Room of the Tug on a steel plinth. Each console shall be free standing, fixed type rigidly built by steel frame structure and shall be covered completely by mild steel plates of 14 SWG. Console frame shall be of 3 mm thick. Hinged doors shall be provided wherever required for easy access of the components fitted inside the console. The equipment inside the console and on the console shall be rigidly fitted. Meticulous care shall be taken in adopting design features and construction to eliminate vibration incidental to movement of the vessel. The entire structure shall be free from rattle. All the steel parts of the consoles shall be treated properly. The painting shall be carried out by seven tank process. The consoles shall be finished with hammer tone grey shade. A sample plate of approximate dimensions 100 x 100 mm shall be supplied for Shipyard's approval, after receipt of order. Total thickness of paint shall not be less than 90 microns (ninety microns).

- 4.1.2) Insulated hand Rails shall be provided at front side of each console.

4.1.3) **DIMENSIONS & PANEL ARRANGEMENT**

The Preliminary dimensional drawing shall be supplied as per the enclosed Guidance Sketch No 99620 A along with the offer.

Lift off covers shall be provided with flower knob type latch bolts at front and back of bridge consoles. Besides, suitable size hinged doors shall be provided on removable covers at rear end for operating distribution boards without removing end covers.

Necessary cutouts are to be made on consoles for HSL scope of supply items as per the drawings supplied and shall fit these items at site.

4.2) **CABLE CONNECTION AND WIRING:**

All the power supply cables, out-going cables etc., will enter from bottom only and are of flame retardant type. Cable connectors shall be provided at the bottom.

Necessary internal wiring for the shipyard supply items shall be carried out by the console supplier at Makers work shop, and shall be terminated in cable connecting sockets / connectors.

The console supplier shall fit the HSL supplied items at HSL.

Flame retardant cables with extra flexible copper conductor and heat resisting insulation of appropriate rating shall be adopted for wiring between hinged doors and fixed cables with flexible copper conductor, heat resisting insulating cables shall be used for internal wiring, wherever necessary internal wiring with screening shall also be provided.

4.3) **NAME PLATES:**

Suitable name plates for all the console mounted items as approved by Shipyard, on Anodized aluminium alloy shall be provided by console suppliers.

4.4) **EQUIPMENT TO BE FITTED ON BRIDGE CONSOLES AND ECR CONSOLE:**

The equipments shall be fitted on the consoles and hence necessary wiring shall be carried out by the console manufacturers as per Para 4.6.1 & 4.6.2. Suppliers name, address, order details, overall cutout dimensions, etc., of HSL sub-suppliers will be furnished at the time of placement of order or subsequent to the order.

4.5.1) The items indicated in the **Annexure - A** are to be mounted on Bridge Console
Dimensions: 1160 x 1100 x 950 (L x D x H) mm.

4.5.2) The items indicated in the **Annexure - B** are to be mounted on MCR Console
Dimensions: 1200 x 750 x 1250 (L x D x H) mm.

4.5.3) **16 WAY 230 V A.C Nav. D B for FWD Bridge Console:**

Console manufacturers shall include 230V AC distribution board in the scope of supply and shall be fitted inside the console at easily accessible place. The distribution board shall be provided with classification approved type and make, miniature circuit breakers of 10 Amp / Suitable rating. The board shall be made of sheet steel enclosure, suitable to mount inside the console. The board is intended to arrange 230V A.C supply to various items fitted on the console and for wheel house equipment. Details of Name Plates etc., will be furnished by HSL at the time of approval of drawings. For MCR Console a similar 6 Way AC DB shall be provided inside the console.

4.5.4) **10 WAY 24 V D.C Nav. D B for FWD Bridge Console**

Console manufacturers shall include 24 V DC distribution board in the scope of supply and shall be fitted inside the console at easily accessible place. The distribution board shall be provided with classification approved type and make, miniature circuit breakers of 10 Amp / Suitable rating. The board shall be made of sheet steel enclosure, suitable to mount inside the console. The board is intended to arrange 24V D.C supply to various items fitted on the console and for wheel house equipment. Details of Name Plates etc., will be furnished by HSL at the time of approval of drawings.

4.6) The supplier shall forward Four (4) sets of the following drawings within 15 days from placement of order for HSL approval, before commencing the manufacturing. Minor modifications in arrangement of items on the console and any minor changes in dimensions / wiring of the console suggested at the time of approval by HSL shall be carried out without extra cost.

- a. General arrangement of Bridge console & MCR Console.
- b. 230V AC navigational DB & 24V DC DB dimensional & wiring diagrams.
- c. Terminal board connection drawings for all Console mounted items.
- d. Name plate details.
- e. Bill of materials.

5. **Spares:**

5.1 Working Spare Spares shall be supplied for Bridge Consoles (Port & Stbd) and MCR Console Control Panels as follows:

- a. Miniature Circuit Breakers 1 for each 10 or less
- b. Indicating Lamps
- c. Fuse 1 for each 10 or less
- d. Dimmer 1 No.
- e. Final Paint 2 Ltrs.

5.2 **On-Board Spares:**

List of Manufacturer Recommended Spares with pattern / part number with individual cost shall be indicated separately in the offer, for two years operation of each vessel. The order for OB spares, tools and test equipment shall be done concurrently while placing the order for main equipment. The spares consumed within the guarantee period to rectify / liquidated known defects shall be replaced free of cost.

5.3 **Base and Depot Spares :**

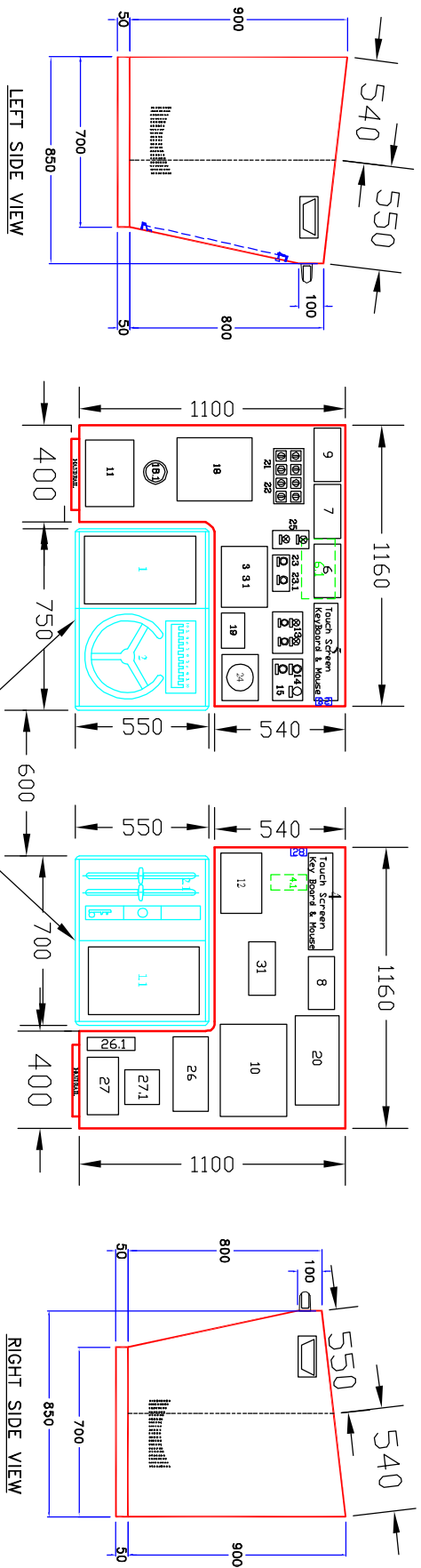
The tenderer shall arrange for quotation from Original equipment suppliers in ILMS format as recommended by them for Base and Depot spares for five years exploitation. The quotation shall be for unit price of each item offered. Copy of parts Identification List shall be enclosed to the technical offer. The validity of the offer be for 18 months. The cost of B&D spares will not be considered while evaluating the offer.

5.4 **Life time Support:**

Supplier shall confirm the provision of life time support by providing for a minimum period of 20 years, except electronics where the minimum period will be 10 years after delivery of the tugs. In case of the equipment is likely to become obsolete, the manufacturer shall be committed to give a clear 3 years notice to the Indian Navy to assess the requirement of "life time buy" of spares.


Manager (ED)

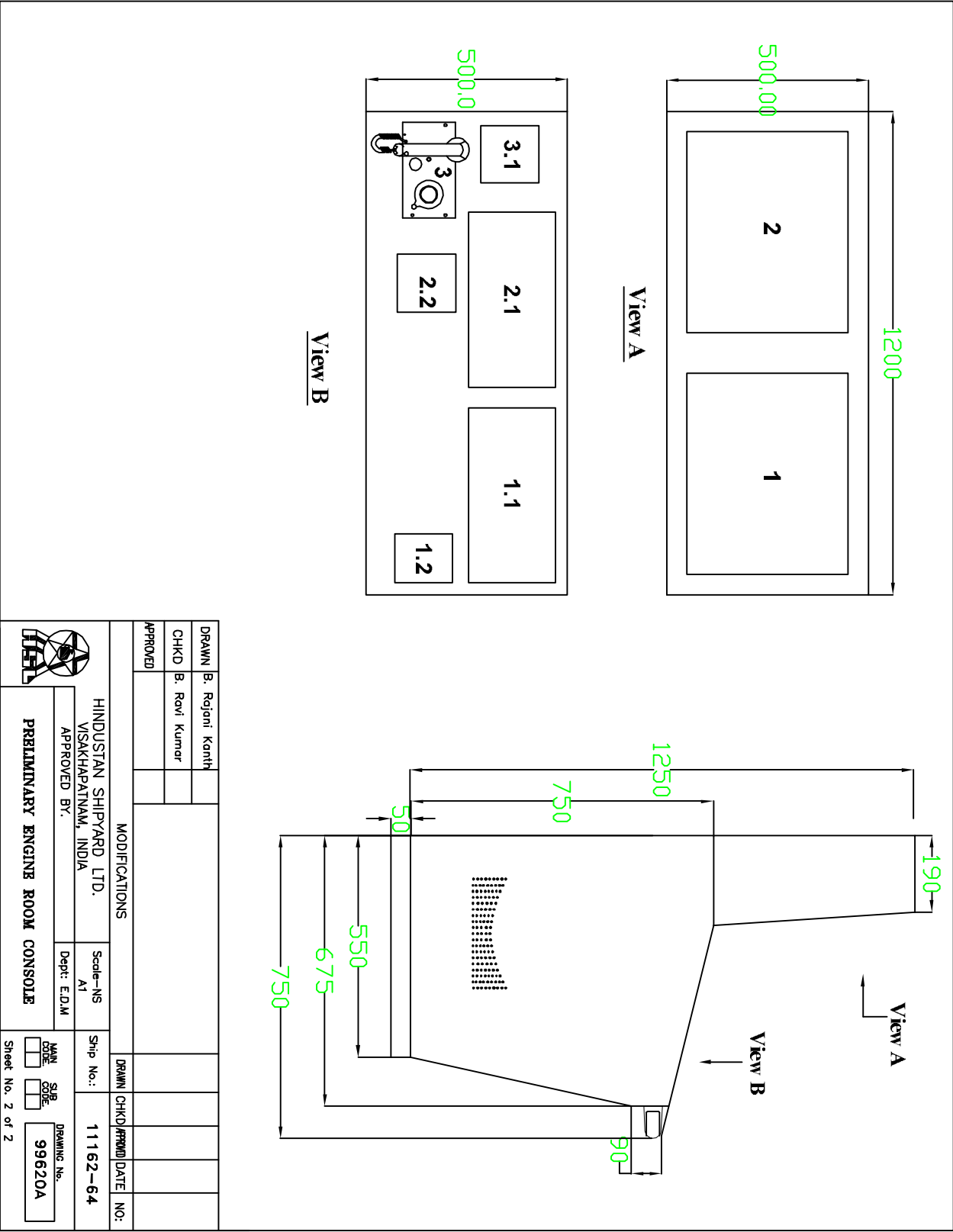
Encl.: As above i) Guidance Sketch No. 99620 A Sht 1 to 2.
ii) Annexure - A (Pg. No. 1 to 2)
iii) Annexure - B (Pg. No. 1 of 1)




- CONSOLE SUPPLIER SCOPE
- HSL SCOPE
- CONSOLE SUPPLIER SCOPE

VOITH CONTROL STAND (HSL SUPPLY)

DRAWN	B.Rajani Kanth	HINDUSTAN SHIPYARD LTD.		SCALE: NS	SHIP No.	VC - 11162 - 64
CHKD	B.Ravi Kumar	VISHAKAPATNAM, INDIA		DEPT: E.D.M		
APPROVED	D.S.Sostri	MODIFICATIONS				
		WHEEL HOUSE CONSOLE LAYOUT (GUIDANCE DRAWING)		SHEET NO. 1 OF 2		
				99620A		



DRAWN	B. Rajani Kanth	MODIFICATIONS	
CHKD	B. Ravi Kumar		
APPROVED			
HINDUSTAN SHIPYARD LTD. VISAKHAPATNAM, INDIA		Scale-NS A1	Ship No.: 11162-64
APPROVED BY:		Dept: E.D.M	DRAWN/CHKD/APPD/DATE/NO:
PRELIMINARY ENGINE ROOM CONSOLE			
		<input type="checkbox"/> MAIN CODE <input type="checkbox"/> SUB CODE <input type="checkbox"/> DRAWING No. 99620A	Sheet No. 2 of 2

Bridge Console Equipment List for 3 Nos. 50T B.P. Tug for Indian Navv HSL
Yard Nos. 11162 – 64

Item Nos.	Description	QTY. in Nos.	Scope of Supply	Dimensional Detail W x H	Remarks
1	M.E Indication Panel(PORT)	1	HSL		Mounted on Voith Control Stand
1.1	M.E Indication Panel (STBD)	1	HSL		
2	Voith Wheel	1	HSL		
2.1	Voith Pitch	1	HSL		
3	DG Control Panel – 1	1	HSL		
3.1	DG Control Panel – 2	1	HSL		
4	Alarm Monitoring System display	1	HSL		Cutout Not Req.
4.1	600VA UPS	1	HSL		Inside Console
5	Tank Gauging Display	1	HSL		Cutout Not Req.
6	Echo Sounder	1	HSL		Cutout Not Req.
6.1	Echo Sounder Matching Box	1	HSL		Inside Console
7	Speed log	1	HSL		Cutout Not Req.
8	GPS	1	HSL		Cutout Not Req.
9	Wind Speed Direction Indicator	1	HSL		Cutout Not Req.
10	Navigation light control panel	1	HSL		
11	PA, Talk Back with loud hailer	1	HSL	275 X 200	
12	FIFI clutch control panel	1	HSL	250 X 170	
13	Emergency start /stop running indicator for Fire / Bilge Service Pumps	2	Console Supplier		
14	Call push Button	2	Console Supplier		
15	Abandon Push Button with Protective Cover	1	Console Supplier		
16	CV Screens Control Panel	1	HSL		
17	Window Wiper Control Panel	1	HSL		
18	Air Horn Control Panel	1	HSL		
18.1	Air Horn Push Button	1	HSL		
19	Magnetic Compass ON / OFF Switch with Dimmer	1	Console Supplier	144 x 96	
20	Radar Display	1	HSL		
21	Search Light Switch	2	Console Supplier	145 x 150	
22	HPMV Flood Light Switch	4	Console Supplier		
23	Emergency Stop (ES1) – E/R Vent Fan E/R Oil Pump Air Compressor	1	Console Supplier		
23.1	Emergency Stop (ES2) – Accom. Vent Fan	1	Console Supplier		
24	Gyro Steering Repeater Panel	1	HSL		
24.1	Gyro Compass Control Panel	1	HSL		

Annexure – A

25	Water Tight Door Indication	1	Console Supplier	75 x 150	
26	VHF (Voice + DSC)	1	HSL		
26.1	VHF Hand Set	1	HSL		
27	Sound Power Telephone System	1	HSL		
27.1	Illuminated Directory Plate	1	Console Supplier	144 x 144	
28	Switch + Socket	2	Console Supplier		Inside Console
29	16 Way 240V AC Navigation Equipment DB	1	Console Supplier		Inside Console
30	10 Way 24V DC Navigation Equipment DB	1	Console Supplier		Inside Console
31	AIS	1	HSL		

MCR Console Equipment List for 3 Nos. 50T B.P. Tug for Indian Navy HSL
Yard Nos. 11162 – 64

Item Nos.	Description	QTY. in Nos.	Scope of Supply	Dimensional Detail W x H	Remarks
1	Alarm Monitoring System display - 1	1	HSL		
1.1	Key Board - 1	1	HSL		
1.2	Track Ball Mouse - 1	1	HSL		
2	Alarm Monitoring System display - 2	1	HSL		
2.1	Key Board - 2	1	HSL		
2.2	Track Ball Mouse - 2	1	HSL		
3	Sound Power Telephone	1	HSL		
3.1	Non - Illuminated Directory Plate	1	Console Supplier	144 x 144	