जी आर एस ई
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गार्डेन रीच शिपबिल्डर्स एण्ड इंजिनियर्स लिमिटेड
Garden Reach Shipbuilders & Engineers Limited
(भारत सरकार का उपक्रम) (A Govt. of India Undertaking)
रक्षा मंत्रालय Ministry of Defence
इ-खरीद कक्ष, न्यु बिलडिंग कमप्लेक्स (पहला माला),
43/46 गार्डेन रीच रोड,
कोलकाता - 700 024,
E-PROCUREMENT CELL,
New Building Complex (First Floor)
43/46 Garden Reach Road,
Kolkata – 700 024,

email: mtl.eproc@grse.co.in
दूरभाष Phone: 033-24893902
फैक्स: FAX: 033-24692020
CIN: L35111WB1934GOI007891
GST Registration No. 19AAACG9371K1Z4

शुद्धिपत्र (I): निविदा तिथियों में संशोधन हेतु

CORRIGENDUM (I): FOR REVISION OF TENDER DATES

निविदा संदर्भ सं Tender Ref. No.: DEP/VSM/ST/IMP/HARBOUR DIESEL GENSET/ARS/**ET-3529**

विषय Item: SUPPLY OF 465eKW HARBOUR DIESEL GENSET FOR ARS PROJECT

प्रकाशित Published On: 26.09.2026

Sl. NO.	Subject (विषय)	Existing (मौजूदा)	Revised (संशोधित)
1	Bid submission starting date (निविदा जमा करने की प्रारंभिक तिथि(	26-Sep-2026 12:00 PM	26-Sep-2026 03:00 PM
2	Bid submission closing / due date (निविदा जमा करने की अंतिम तिथि(	05-Oct-2026 12:00 PM	05-Oct-2026 12:00 PM
3	Bid Opening date (निविदा खुलने की तिथि)	06-Oct-2026 02:00 PM	06-Oct-2026 02:00 PM
4	Revision in NIT	In NIT at page no 6, designation for POC of Technical to be corrected as SM(P&S) in place of Mgr(P&S).	
5	Revision in NIT	Signing authority should be DEPUTY GENERAL MANAGER I/C (DEP).	
6	Amendment in BOQ format	Bidder will quote their price with inclusive GST for indigenous items against INR for sl 3 – 10. For import items/ (USD) GST not applicable, hence Bidder will quote their price without GST for import items(USD).	

निविदाकारों से अनुरोध है कि विस्तारित जमा तिथि के अंदर उपरोक्त निविदा जमा करें.

Bidders are requested to participate in the above-mentioned tender within extended due date and time.

निविदा के अन्य सभी नियम एवं शर्तों में कोई बदलाव नहीं है.

All other terms & conditions of the tender enquiry remain unaltered.

26/09/26

अधिकृत हस्ताक्षरी

वसन्त समीर मिंज / VASANT SAMIR MIN.
प्रबंधक (क्रय एवं योजना) / Manager (P&S) & Planni
जी० आर० एस० ई० लि० / GRSE Ltd.
डीजल इंजन प्लांट / Diesel Engine Plant
धुर्वा, राँची–4 / Dhurwa, Ranchi-4

Authorized Signatory

"In pursuit of Excellence and Quality in Shipbuilding"

निविदा आमंत्रण/
TENDER ENQUIRY

(एकल निविदा)/
(SINGLE TENDER)

Garden Reach Shipbuilders & Engineers Limited
DIESEL ENGINE PLANT
(A Govt. of India Undertaking, Ministry of Defence)
An ISO 9001-2015 Plant
Plant Plaza Road, Dhurwa, Ranchi - 834 004
Phone: 2446 134/135/137/139/360/806/851
Fax: + (91) 0651-2446895
e-mail: ***singh.dkj@grse.co.in***
CIN - ***U35111WB1934GOI007891***

To:
Asian Infra-ventures Private Ltd, Singapore

1. Name - Ms Hla Kay Khaing (Cress), Operations Manager
   Phone - +65 91737240
   e-mail - cress@aiv.com.sg

2. Name - Arunava Chatterjee, Sales Head – Oil& Gas, Marine
   Phone – 9433018695
   e-mail - Arunava.Chatterjee@gainwellindia.com

Department: Purchase
Purchase Executive: Mr. Vasant Samir Minj, Mgr (PPS)
Telephone No: 0651-2401467, 0651-2401580
e-mail: Minj.VasantSamir@grse.co.in

Tender No: **DEP/VSM/ST/IMP/HARBOUR DIESEL GENSET/ARS/ET-3529** **Date-25-09-2026**

Tender Closing Date & Time: 05.10.2026, 12.00 Hrs. (IST)
Tender Opening Date & Time: 06.10.2026, 14.00 Hrs. (IST)

Tender Fee: NIL
EMD Amount: NIL
Validity of Offer Up To:
Security Deposit:
Performance Bank Guarantee:

Kindly read & refer relevant terms & conditions for further details.

Dear Sir,

Subject: SUPPLY OF 465eKW HARBOUR DIESEL GENSET FOR ARS PROJECT

Garden Reach Shipbuilders & Engineers Ltd – Diesel Engine Plant invites bids for the following in SINGLE BID SYSTEM

Sl No	Item Description	UoM	Quantity	Currency	Remarks
1	Supply of Caterpillar 18, SCAC, IMO Tier II Diesel Genset rating 465 eKW @ 1500 RPM with accessories, attachments for ARS Project	No	01	USD	Marine Type approved and Unit Certified by IRS & ABS; Specifications in SOTR
2	Supply of Shock & Vibration Mounts for mounting system so as to meet the vibration and SBN requirements of ARS Project	Set	01	USD	Selection of mount model by M/s Caterpillar in consultation with OEM
3	Supply of OBS for 465 eKW Diesel Genset	Set	01	INR	OBS as per list specified in SOTR
4	Supply of Tools for 465 eKW Diesel Genset	Set	01	INR	Tools as per list specified in SOTR
5	Supply of BOP Material (Silencer, Silencer Bellows, Fuel Hoses, Coolant Hoses	Set	01	INR	Should be complete for installation & commissioning of DG set onboard ARS
6	Supply of EMI/ EMC compliant Local Control Panel	No	01	INR	Marine Type approved and Unit Certified by IRS & ABS
7	Lubricating Oil	Ltr	80	INR	
8	Coolant	Ltr	80	INR	
9	Deputation of Service Engineer	Days	07	INR	
10	Preservation of DG Set (Services & Preservative)	Job	01	INR	
11	Extension of Warranty 02 years	Job	01	USD	Optional
12	Extension of Warranty 03 years	Job	01	USD	Optional

Terms & Conditions as indicated in Part A of this tender and other enclosures / annexures form an integral part of this tender document. We look forward to receive your most competitive and reasonable offer against this Tender.

INSTRUCTIONS TO BIDDER

1. **PREAMBLE**.

(a) Garden Reach Shipbuilders & Engineers Ltd is India's leading Shipbuilding Company with ISO 9001:2015 accreditation.

(b) Garden Reach Shipbuilders & Engineers Ltd - Diesel Engine Plant invites e-offers in single bid system from **M/s Asian Infra-ventures Pvt Ltd, authorised dealer representative of M/s Caterpillar Inc.,** through GRSE e-procurement portal for Supply of 465eKW Harbour Diesel Genset for ARS Project.

2. **DESCRIPTION OF WORK**. Supply of 465eKW Harbour Diesel Genset for ARS project.

3. **SUBMISSION OF OFFER IN SINGLE BID:** Single bid is to be submitted with following enclosed:-

(a) SOTR Acceptance Matrix, duly filled & signed as per Appendix-A.
(b) Acceptance of Commercial Terms & Conditions, duly filled & signed as per Appendix -B.
(c) Acceptance of Instruction to Bidders, duly filled & signed as per Appendix-C.
(d) Acceptance of STAC, duly filled & signed as per Appendix-D.
(e) Acceptance of GTAC duly filled & signed as per Appendix-E.
(f) A blank copy of Price Bid (without mentioning prices) as per Appendix-F.
(g) Bid Security declaration, duly filled & signed as per Enclosure-4.
(h) Bank details for payment by RTGS/ NEFT, duly filled & signed as per Enclosure- 7.
(i) Bidder contact details, duly filled & signed as per Enclosure- 8.
(j) Document pertaining to Land Border Clause, duly filled & signed as per Enclosure- 9.
(k) Integrity Pact, duly filled & signed as per Enclosure - 10
(l) Price Bid in Excel template price bid format by inserting unit price only. No other attachment to the price bid will be reckoned. Excel sheet for price bid is marked as Appendix-G.

Note:- In any case it is mandatory to quote for all line items as per tender, then if it is found after opening of price bids that the price quoted for a particular line item is 'zero' or supplier has not quoted the price and left the price field blank, then supplier has to supply this/these items free of cost to GRSE.

4. **VALIDITY PERIOD OF OFFER**: Bid/ Offer shall have validity period of **180 days** from the tender closing date.

5. **BID SECURITY DECLARATION:** Bidders has to submit bid Security Declaration as per attached format (**Encl-4**) with stamp and sign.

6. **BID REJECTION CRITERIA**:

(a) **Categorical Rejection Criteria:** The following conditions/deviations are non-negotiable and therefore any bid falling under these conditions/deviations shall be summarily rejected. Bidders to note that they shall not be provided any opportunity to rectify these conditions/deviations post bid opening.

(i) Bids received after tender closing date and time.
(ii) Bid received other than through e-portal.
(iii) Bidders who are debarred under PPPMII order 2017, GEM, CPPP Including Tender holiday issued by GRSE.

(b) **Liable Rejection Criteria:**

(i) Bidders not submitting Integrity pact (IP).
(ii) Bidders Submitting Integrity pact with deviation in GRSE-DEP format, subject to approval of deviation.
(iii) The original of the uploaded copy of Integrity pact if not received within specified period.
(iv) Bidder's failure to submit sufficient or complete details, in case of deficiencies noticed for evaluation of the bids.
(v) Incomplete/misleading/ambiguous bids in the considered opinion of Buyer.
(vi) Bids with technical requirements and/or terms not acceptable to GRSE-DEP/ Customers/External agency nominated as applicable.
(vii) High seas sales/Sales in transit.
(viii) Validity period indicated by bidders is shorter than that specified in the tender enquiry.
(ix) Bidders not agreeing to furnish required Security Deposit / Required Contract Performance

Guarantee till completion of the supplies/services as per contract.

(x) Bidder not agreeing to furnish Performance Bank Guarantee for Equipment supplied or not agreeing for retention of equivalent amount by GRSE-DEP up to the period till completion of contractual & warranty obligations.

(xi) Bidders not submitting Bid Security Declaration in the prescribed format.

(xii) Non-submission of Compliance Certificate wrt Land Border Clause as per enclosed format (**Encl-9**).

(xiii) Bidders not agreeing for Warranty period as specified in the tender.

(xiv) Any deviation sought, which is not accepted to GRSE-DEP.

(c) **Breach of Obligation Clause with respect to Bid Submitted:** In case of breach of any obligation mentioned under, the bidder shall be disqualified/ debarred from the bidding process for a period of one year from the date of notification:-

(i) Bidder has withdrawn/modified/amended/impaired / derogated from the tender during the period of bid validity.

(ii) Bidder fails or refuses to execute the contract upon notification of acceptance of Bid by the purchaser during the period of bid validity.

7. **DELIVERY TERMS & PRICING:**

(a) Delivery Terms: **FOB New York Port OR DAP GRSE-DEP, Ranchi**. The seller has to clear the items for export till onboard of vessel.

(b) Prices of all items of OBS & Tools listed in the price sheet are to be quoted for delivery as per above Incoterms. Deviation in these Incoterms are not acceptable.

(c) The prices quoted shall remain firm and fixed during the currency of the order/ contract unless agreed otherwise by GRSE.

(d) Packing details such as size, weight etc. of the equipment/ items to be mentioned and each item to be endorsed/ stamped by Inspection Agency.

8. **TAXES & DUTIES:**

(a) Bidder must clearly mention the applicable Taxes & Duties in the rate sheet enclosed in the tender.

(b) Taxes & duties as applicable to be borne by Buyer & Seller in their own country i.e GRSE will bear the taxes & duties applicable within India and for outside India same will be borne by seller/bidder.

9. **MODE OF DISPATCH**: Air/ Sea/ Road

10. **CONSIGNEE:**

(a) Ordered items are to be delivered at following address:-

Garden Reach Shipbuilders & Engineers Ltd
Diesel Engine Plant
Plant Plaza Road, Dhurwa
Ranchi – 834 004

Note:- In order to avoid inconvenience during the delivery of material, it is advisable for supplier to depute their representative in their own interest to coordinate the activities between the transporter and stores.

(b) The consignment must be delivered by giving at least 15 days' advance notice to GRSE-DEP clearly indicating weight, dimensions of the consignment etc.

(c) The following Documents should be sent along with the consignment of B&D Spares as applicable:-

(i) Copy of GRSE-DEP Purchase Order & subsequent amendments issued to it, if any.

(ii) Copy of Invoice.

(iii) Inspection Release Note (IRN) issued by nominated inspection officer.

(iv) Delivery Challans clearly indicating GRSE-DEP Purchase Order No, Inspection Note Details and Packing List co-relating the items in the inspection report.

(v) Copy of Warranty Certificate, Preservation Certificate etc. as relevant.

11. **DELIVERY PERIOD/ COMPLETION SCHEDULE:**

(a) Delivery period 08 months w.e.f the date of placement of order.

(b) **Part Delivery**: Part Supply Part Payment PSPP (03 lots).

12. **ADDITIONAL INSTRUCTIONS**: Bidder shall abide by all Standard Terms and Conditions of Supply (STACS), GT&C and Tender Acceptance formats with offer. The bidder shall also abide statutory requirements, Official Secret Act 1923 and Safety clause hosted on GRSE Website.

13. **INSPECTION**: The 465 eKW Harbour DG are to be type approved and unit certified by IRS and ABS.

14. **PAYMENT TERMS:**

(a) 100% payment of the Purchase Order for material value shall be made by irrevocable Letter of Credit (L/C). L/C will be opened on receipt of your Pro-forma Invoice. Performance Bank Guarantee (PBG) for 10% of ordered value with validity till Guarantee/ Warranty period with one month claim period is to be submitted by the supplier to GRSE along with the dispatch documents on receipt of which a certificate shall be issued by GRSE. Following documents are to be submitted to Bank for negotiation of payment against L/C immediately after shipment in original along with 03 extra copies of each documents:-

(i) Signed invoice.
(ii) Clean and clear bill of lading.
(iii) Certificate of Country of Origin, in triplicate, issued by Chamber of Commerce.
(iv) Guarantee/ warrantee Certificate in triplicate.
(v) Manufacturer's Test Certificate.
(vi) Bundle wise list of packing.
(vii) GRSE's certificate as to receipt & acceptance of Performance Bank Guarantee for 10% value of Order.
(viii) OEM's Certificate of Conformance

Note1: All the documents must clearly indicate the GRSE Purchase Order No., Import License No.

15. **BANK CHARGES**:

(a) All normal Bank Charges in India will be borne by GRSE and Bank charges outside India will be borne by the supplier.
(b) LC shall be negotiable through any correspondent Bank of GRSE Bankers in the supplier's country. LC confirmation charge where required, will be borne by the supplier.
(c) Bank Charges for extension of LC required due to Supplier's fault shall be borne by the supplier.

16. **WARRANTY/ GUARANTEE**:

(a) The items supplied shall be warranted / guaranteed for satisfactory Performance for the period of 36 months from date of receipt and acceptance by GRSE or 12 months from the date of commissioning.
(b) The Warranty for the spares supplied shall be limited to back-to-back basis and the Warranty obligations flow down to NPOL. This means that if ship is delivered to NPOL by shipyards and at that time the warranty exists, then the balance warranty period of the spares shall be extended to NPOL.
(c) The Supplier cannot absolve their responsibility for warranty of material even though it is inspected by & approved by the inspection authorities.
(d) If the defects are not remedied within a reasonable/stipulated time, GRSE-DEP/ *IN* may proceed to rectify the defects at the supplier's risk & cost, but without prejudice to GRSE-DEP's rights under the contract.
(e) During the period of warranty / guarantee if any defect noticed in the item supplied, the supplier/ contractor will have to rectify such defects immediately at no extra cost to GRSE-DEP/ *IN*.

17. **PERFORMANCE BANK GUARATNEE**:

(a) The bidder has to submit Performance Bank Guarantee from a Nationalized/Scheduled Banks for 5% of total order value excluding taxes & duties valid up to contractual warranty period plus one-month claim period. Submission of BG from any other Bank will not be accepted.

(b) In the event of defects due to poor workmanship leading to nonperformance of the Equipment/Item and bidder failure to attend the defects within a reasonable period of time, the Bank Guarantee will be enchased by GRSE-DEP. GRSE-DEP decision in this regard shall be final and binding on the bidder. In the event of postponing of delivery of deliverables or extension of guarantee desired & sought by GRSE-DEP, the Performance Bank guarantee has to be extended till the extended period.

Note:-

(i) The PBG to be submitted on Rs. 500 Non-Judicial Stamp Paper.
(ii) All the bank guarantees of this tender should be from Nationalized/Scheduled Banks excluding the Co-Operative banks.
(iii) Security Deposit will be returned without interest on full execution of the order against firm's request letter.

19. **LIQUIDATED DAMAGES (LD)**: In cases of delay not attributable to Purchaser, beyond the agreed schedule, the Supplier/Contractor shall pay LD, a sum representing 0.5% (Half percent) per week or part thereof, subject to maximum of 10% of the delayed portion of the order/contract. In case the undelivered / unfinished portion of the order results in to

non-utilization / ineffective utilization of delivered portion, in such cases LD shall be applicable on the total value of deliverables.

20. **LAND BORDER**:

(a) This clause is applicable for bidders form a country which shares a land border with India'' for the purpose of this order means: -

(i) An entity incorporated, established or registered in such a country; or

(ii) A subsidiary of an entity incorporated, established or registered in such a country;

(iii) An entity substantially controlled through entities incorporated, established or registered in such a country; or

(iv) An entity whose beneficial owner is situated in such a country; or

(v) An India (or other) agent of such an entity; or

(vi) A natural person who is a citizen of such a country; or

(vii) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

(b) Bidders from a country sharing land border with India shall Mandatorily requires registration with registration Committee by the Department for promotion of Industry and Internal Trade (DPIIT). Registration shall not be applicable for the bidders from those country to which the Government of India has extended Line of credit or in which the government of India is engaged in development project.

(c) Order issue by ministry of Finance department of expenditure Vide OM 6/18/2019PPD dated 23 July 2020 and 24 July 2020 shall be applicable.

21. **INTEGRITY PACT (IP)**: The Integrity pact essentially envisages the agreement between prospective vendors / bidders & buyers committing the person/officials of both the parties not to exercise any corrupt influence on any aspects of the contract. Only those vendors/bidders who enter into such an integrity pact with the buyer would be competent to participate in the bid. Therefore, non-acceptance and non-submission of IP by the vendors/bidders shall be liable to rejection. The format of Integrity Pact is enclosed with tender documents (Encl-10). IP shall be submitted on plain paper. The 'Integrity Pact' dully filled as per enclosed format to be submitted along with the offer. Bidders to ensure that every page of IP is ink signed with company seal/stamp. The original of the uploaded copy of IP shall reach GRSE-DEP within 07 days of Tender Opening date.

22. **INDEPENDENT EXTERNAL MONITORS (IEM):** The following Independent External Monitors (IEMs) will have the power to access the entire project document and examine any complaints received by him. In case of any change in IEMs it will be informed accordingly.

(a) Shri Lov Verma, IAS (Retd.),
B-12, Second Floor,
Green Park Extension,
Near Uphar Cinema,
New Delhi – 110016
Email: **lov_56@yahoo.com**

(b) Shri Debashis Bandyopadhyay,
Ex- Director (HR), BHEL
B1001 Prateek Wisteria,
Sector 77, Noida
Uttar Pradesh – 201301
Email: **debashis9999@gmail.com**

23. **OPTION CLAUSE**: GRSE-DEP retains the right to place orders for additional quantities up to a maximum of 30% of the originally contracted quantity at the same rate and terms of the contract. Such an option shall be available during the original period of contract. Option quantity during extended delivery period is limited to 30% of balance quantity after original delivery period.

24. **BOOK EXAMINATION CLAUSE**: In case it is found to the satisfaction of the BUYER that the seller has engaged an Agent or paid commission or influenced any person to obtain the contract as described in clauses relating to Agents/Agency commission and penalty for use of undue influence, the seller, on a specific request of the buyer shall provide necessary information/Break-up data/ inspection of the relevant financial documents/information.

25. **E-PORTAL AND E-TENDER GUIDANCE**:

(a) Instructions to the Bidders to visit https://eprocuregrse.co.in and submit the bids online.

(b) The Digital Signature Certificate (Class III Certificates with signing key usage) issued by SIFY/TCS/n Code / e-Mudra or any Certifying Authority recognized by CCA India one Token/ Smart Card, should be registered.

(c) Any clarifications may be obtained online through the tender site, or through the contact details.

(d) Bidder should take into account the corrigendum published before submitting the bids online.
(e) It will be the bidder's responsibility to check the status of their Bid on-line regularly after the opening of bid till award of work.

26. **Contact Details for Queries**: In case of any clarifications regarding tender condition/TSP/specification, bidders are requested to contact the following person, before the closing date of the tender.

Technical	Mr. Sudarshan Tigga, Mg r(P&S)	Tigga.Sudarshan@grse.co.in
Commercial	Mr. Vasant Samir Minj, Mgr (PPS)	Minj.VasantSamir@grse.co.in

27. **Pre-Bid Meeting**. Pre-bid Meeting will be held on _____.

28. We look forward to receive your most competitive and reasonable offer against this tender.

GENERAL MANAGER (I/C-DEP)
M/s. GARDEN REACH SHIPBUILDERS & ENGINEERS LTD.,
DIESEL ENGINE PLANT, PLANT PLAZA ROAD, DHURWA,
RANCHI – 834004

ENCLOSURES:

Enclosure-1	SOTR
Enclosure-2	Terms & Conditions of Contract
Enclosure-3	Bid Security Format
Enclosure-4	Security Deposit Bank Guarantee format (SDBG)
Enclosure-5	Performance Bank Guarantee (PBG) format
Enclosure-6	RTGS format
Enclosure-7	Contact Details of the Bidder
Enclosure-8	Land Border Clause Format
Enclosure-9	Integrity pact

Enclosure-1

STATEMENT OF TECHNICAL REQUIREMENT (SOTR)

1. **Scope of Work**. The scope of work involves following:-

Sl No	Item Description	UoM	Quantity	Currency	Remarks
1	Supply of Caterpillar 18, SCAC, IMO Tier II Diesel Genset rating 465 eKW @ 1500 RPM with accessories, attachments for ARS Project	No	01	USD	Marine Type approved and Unit Certified by IRS & ABS
2	Supply of Shock & Vibration Mounts for mounting system so as to meet the vibration and SBN requirements of ARS Project	Set	01	USD	Selection of mount model by M/s Caterpillar in consultation with OEM
3	Supply of OBS for 465 eKW Diesel Genset	Set	01	INR	
4	Supply of Tools for 465 eKW Diesel Genset	Set	01	INR	
5	Supply of BOP Material (Silencer, Bellows, Fuel Hoses, Coolant Hoses	Set	01	INR	Should be complete for installation & commissioning of DG set onboard ARS
6	Supply of EMI/ EMC compliant Local Control Panel	No	01	INR	Marine Type approved and Unit Certified by IRS & ABS
7	Lubricating Oil	Ltr	80	INR	
8	Coolant	Ltr	80	INR	
9	Preservation of DG Set (Services & Preservative)	Job	01	INR	
10	Extension of Warranty 02 years	Job	01	USD	Optional
11	Extension of Warranty 03 years	Job	01	USD	Optional

2. **Basic Technical Requirements**.

(a) The 465 eKW DG Set is required to meet the technical criteria specified in the Technical Specifications placed at **Appendix-A**.

(b) The DG Set is to be marine type approved and Unit Certified by IRS and ABS.

(c) Following are to be included in the 465 eKW DG Set package:-

C18 ACERT, SCAC, IMO2, 465EKW, 50HZ DG SET
50 Hertz, 415V
1500 RPM
465 EKW W/O Fan
Open Crankcase Vent Hose Kit
Green Passport Documentation
IMO DNV Engine Certification
ABS & IRS Engine Certification
ABS & IRS Alternator
ABS & IRS Local Control Panel
Right Hand Service Generator
IP44 Generator Protection
Potential Transformer
Generator Terminal Box Ext
No Jacket Water Heater
Duplex Oil Filter

Plate Type Fuel Cooler
Flex Fuel Lines - USCG approved
Water Separator
Spray Shielding – Fuel Cooler
Manual Sump Pump
Duplex Fuel Filter
Spray Shielding- Duplex Fuel
CAT MGCPIII A&P 20FT Harness
CAT A&P HEX Press Sensor
CAT A&P Exhaust Temp Sensor
Oil Level Sensor
Std Damper
Damper Guard
Charging Alternator 24V 70 AMP
Air Inlet Adapter
Ammeter Gauge 24V-SL
Air Starting Motor-LH
No Elec Starting Motor
Air Start Silencer
Air Pressure Regulator
Genset – Base
Genset Vibration Isolators
Exh Dry Elbow 203.2MM (8”)
Exh Flexible Fitting 203.2MM (8”)
Exh Outlet Flange 203.2MM (8”)
Technical Manual in English
Silencer with Bellows
Load Sharing Interface Module
Cat Yellow Paint
Gen Test Report @ 1.0 PF
Engine Protective Cover
Basic Preservation GP Engine
MCS Genset TVA - STD
Engine Test
Shrink wrap
S&V Mounts

(d) The make, model and quantity of the S&V mounts are to be decided by the bidder in consultation with the OEM of the S&V mounts to meet the vibration and SBN criteria of the DG set specified in the Technical Specifications placed at **Appendix-A**. The mounts are to be delivered along with the engines or before in good condition.

(e) The On-board spares to be supplied with the engines should include following:-

Spare Parts	Qty	CAT Description	Cat Part No.	Qty.
Main bearings or shells for one bearing of each size and type fitted, complete with shims, bolts and nuts	1	Bearing Main	CAT-3178766	7
		Plate Thrust	CAT-2531752	2
		Bolt Bearing Cap	CAT- 3P1323	14
Exhaust valves, complete with casings, seats, springs and other fittings for one cylinder	2 sets	Valve Exhaust	CAT-4907200	4
		Spring Inner	CAT-2113122	4
		Roto coil	CAT-1862001	4

		Spring Outer	CAT-2479908	4
		Lock retainer	CAT- 2A4429	8
		Insert Valve Seat	CAT-2265561	4
		Guide Valve	CAT-1227375	4
		Seal Valve Stem	CAT-1632478	4
Air inlet valves, complete with casings, seats, springs, and other fittings for one cylinder	I set	Valve Inlet	CAT-4907198	2
		Spring Inner	CAT-2113122	2
		Roto coil	CAT-1862001	2
		Spring Outer	CAT-2479908	2
		Seal Valve Stem	CAT-1632478	2
		Insert Valve Seat	CAT-2803979	2
		Guide Valve	CAT-1227375	2
		Lock retainer	CAT- 2A4429	4
Starting air valve, complete with casing, seat, springs and other fittings	1	NA		
Fuel valves of each size and type fitted, complete, with all fittings, for one engine	1/2 set	NA		
Bottom end bearings or shells of each size and type fitted, complete with shims, bolts and nuts, for one cylinder	1	Bearing Connecting Rod	CAT-2613450	6
		Bolt	CAT-2133217	12
and nuts, for one engine	1	Bearing	CAT-2296259	6
Trunk piston type gudgeon pin with bush for one cylinder	1	Pin Piston	CAT-5245565	1
		Retainer	CAT-2502940	2
Piston rings for one cylinder.	1 set	Ring piston top	CAT-2239159	1
		Ring piston Intermediate	CAT-2382707	1
		Ring Oil Control	CAT-2465659	1
Telescopic cooling pipes and fitting of their equivalent, for one cylinder unit	1 set	Bolt	CAT-1515925	1
		Cooling Jet	CAT-2748359	1
Fuel Pump Complete or when replacement at sea is practicable, a complete set of working part of for one pump (plunger sleeve valve spring etc)	1	Seal O ring	CAT-1075769	1
		Pump GP fuel Injection	CAT-2768307	1
		Pump Fuel Transfer	CAT-3887286	1
High pressure fuel pipe of each size and shape fitted complete with coupling	1	NA		
Special gaskets and packings of each size and type fitted, for cylinder covers and cylinder liners for one cylinder	1 set	Front hsg gkt kit	CAT-4498559	1
		Oil cooler and lines	CAT-4917457	1
		Single cly. Head installation	CAT-5641682	1

(f) Tools to be supplied is to include following:-

Sl No	Description of material	Make	Qty
1	Socket set ½" DriveSize:3/8",7/16",1/2",9/16"5/8",11/16",3/4", 13/16",7/8",15/16",1", 1,1/8" & 1,1/4". Total-13 nos. Socket set ½" drive mm size" 8mm-19mm Total =12 nos.	EVEREST	01 set
2	Extension Rod 1/2" Square Drive 3" long	TAPARIA	01 No
3	Extension Rod 1/2" Square Drive 5" long	TAPARIA	01 No
4	Tee Handle ½" square Drive	TAPARIA	01 No
5	Ratchet Handle 1/2" Square Drive	TAPARIA	01 No
6.	Universal joint 1/2" Square drive	TAPARIA	01 No
7.	Reducer 3/8" M X 1/2" F	HONITON	01 No
8.	Reducer 3/8" F X 1/2" M	HONITON	01 No

9.	Socket set 3/8" square drive 6mm-21mm, total socket 14 pieces with Ratchet handle, Tee Handle, Extension 3" & 6" and universal joint.	Taparia/ Everest/ Eqv.	
10	Combination Spanner size: 3/8",7/16",1/2",9/16"5/8",11/16", 3/4",13/16",7/8",15/16",6,7,8,9,10,11,12,13 & 14mm. 01 set of 16 Nos.	EVEREST	01 set
11	Ring Spanner size: 3/8" X7/16", 1/2" X9/16, 11/16" X5/8", 13/16" X 7/8", 15/16" X 1' &14 X15mm.01 set of 06 pieces.	EVEREST	01 set
12	Circlip Pliers 7" Long	TAPARIA	01 No
13	Noise Pliers 7" Long	TAPARIA	01 No
14	Adjustable Spanner 12"	TAPARIA	01 No
15	Filler Gauge 4"	TAPARIA	01 No
16	Screw driver 12"	TAPARIA	01 No
17	Allen key set: Inch & Metric size. 02 set	TAPARIA	01 set
18.	Digital Multimeter	FLUKE 15B or Equivalent	01 No.
19	Screw Driver set with Tester	TAPARIA	01 No
20	Engine Turning Tools	Standard	01 No
21	3/4" Square Drive Socket Size: 3/4"	TAPARIA/Eqv.	01 No
22	3/4" Square Drive Socket Size: 1-1/8"	TAPARIA/Eqv.	01 No
23	3/4" Square Drive Handle	TAPARIA	01 No
24	3/4" Square Drive Extension 4" long	TAPARIA	01 No

(g) Torsional Vibration Calculations (TVC) of the DG set is to be provided by the bidder as a part of deliverables. The TVC is to be vetted by IRS and ABS.

(h) Following documents are to be delivered by the bidder:-

(i) Type approval certificate and Unit certificate from IRS and ABS for engines.
(ii) Green passport documentation.
(iii) IMO GL engine certificate.
(iv) FATs report.
(v) Guarantee/ Warranty Certificate.
(vi) Test report of the mounts.
(vii) Country of Origin.

3. **Terms of Delivery**. **FOB New York Port OR DAP GRSE-DEP, Ranchi**. The seller has to clear the items for export till onboard of vessel.

4. **Guarantee/ Warranty**. 36 months from the date of acceptance of DG sets by GRSE or 12 months from the date of commissioning of ship, whichever is later.

5. **Terms of Price:**

(a) Quoted Price shall be firm and fixed till full execution of the order.

(b) No price escalation is allowed at any stage. Quoted price must be inclusive of all charges like, "incidental charge" etc.

6. **Packing Instruction**: All material are to be properly packed to protect against ingress of water & dust and to withstand transit damages/ pilferages during transit. All packing/ cases should be properly identified and tagged. Packing should be of a very high quality and in sea-worthy rigid cases, duly tied with steel band to ensure full safety of the consignment in transit and also must be properly secured in position within the cases using suitable materials.

7. **Identification of Deliverables.** While dispatching each item should be identified with Firm's part number. Each item should be identified with Metallic or Plastic tag indicating both GRSE code number and Firm's part number. Packing list should indicate all deliverable items along with GRSE Purchase Order reference (Ser No of PO)

8. **Delivery Period:** Eight months from the date of placement of order.

9. **Shipping Marks**: The packing cases should be marked as:-

GRSE LTD. DEP RANCHI. PROJECT: ARS. CASE NO* DIMENSION.* GROSS WEIGHT* NET WEIGHT * *TO BE INDICATED. CONSIGNOR'S NAME* PORT OF DISCHARGE - KOLKATA.

10. **Rejection Replacement:** Any equipment/ spares found defective/rejected, Supplier will collect the same from GRSE Stores, all incidental charges to be borne by them, within 30 days from the date of intimation to Supplier of such rejection. GRSE reserves the right to dispose of the rejected items at the end of a total period of 90 days in any manner to the best advantage to GRSE & recover storage charges and any consequence damage from sale proceeds of such disposal.

APPENIDIX- A

CHAPTER - 1 - GENERAL INFORMATION OF THE VESSEL / EQUIPMENT

1.1. INTRODUCTION

Acoustic Research Ship (ARS) shall be designed and built by GRSE for world-wide service as per the requirements of NPOL. The new ship shall be used to carry out acoustic and oceanographic research activities. The design of the ship shall be in compliance to the Indian and international standards related to safety for the personnel, ship systems, scientific equipment and for the best possible protection of the environment.

The vessel shall be propelled with two azimuth thrusters (FPP) which will meet the DP-2 requirements and two bow thrusters.

1.2. PRINCIPAL PARTICULAR

Length over all	96 m
Length between perpendiculars	88 m
Breadth molded	18 m
Depth to main deck	7.70 m
Design Draught	5.50 m
Displacement	5543 T
Endurance	30 days transit at 12 knots
Complement	120 personnel
Dynamic positioning	DPs 2-ABS

1.3. CLASSIFICATION

 The vessel shall be classed with INDIAN REGISTER OF SHIPPING (IRS) as the primary class and AMERICAN BUREAU SHIPPING (ABS) as secondary class with the following notations.

 AMERICAN BUREAU SHIPPING (ABS) ✠A1, Acoustic Research Vessel, SPS, E, ✠AMS, ✠ACCU, ✠DPS-2, UWN (AT), UWN(R), ENVIRO, HAB(WB), VIB-M, NBLES, CR.

 INDIAN REGISTER OF SHIPPING (IRS) 卐 SUL, SPECIAL PURPOSE SHIP, CMF (C3), URN (NR), SPECIAL GOVT SERVICE. 卐 IY, BDS, CCS, SYJ, DP (2), CyS-I CLEAN SEA, CLEAN AIR. Description – ACOUSTIC RESEARCH VESSEL

1.4. **ENVIRONMENTAL CONDITION**. The ship is to be designed to meet following environmental conditions:-

(a) Seawater temperature: 0ºC to 32ºC.
(b) Ambient air temperature Summer Primary: 35ºC at 70% rel. humidity.
(c) Ambient air temperature Summer Secondary: 41ºC at 50% rel. humidity.
(d) Maximum air temperature winter: 8ºC.

1.5. **ELECTRIC POWER SYSTEM** Broad specifications of the Electrical Power System shall be as follows:-

(a) Diesel generators: AC 690V, 3 phase, 50 Hz
(b) Main power supply: 415V, 3phase, 50Hz
(c) Lighting: AC 230V, 50 Hz
(d) Emergency power: AC 415V, 3 phase, 50 Hz
(e) Emergency lighting: AC 230V, 50 Hz
(f) Clean power/ UPS navigation and communication.: AC 230V, 50 Hz, DC 24V
(g) Control circuit: AC 230V, 50 Hz, DC 24V
(h) Control and monitoring: AC 230V, 50 Hz, DC 24V
(i) Socket outlets: AC 230V, 50 Hz
(k) Clean power/UPS scientific (UPS/Converter): AC 230V, 50 Hz

CHAPTER – 2 - TECHNICAL SPECIFICATIONS

2.1 GENERAL TECHNICAL REQUIREMENTS

Reputed make 4 strokes turbocharged and intercooled (fresh water) engine duly coupled by approved type flexible coupling with marine Alternator rated at 450 kW at normal operating condition at 1500RPM, AC 415V, 3 phase, 50 Hz with IMO tier II compliance.
Diesel engine duly aligned & coupled with generator shall be resilient mounted to reduce noise and vibration on common base frame. The common base frame shall be finally installed with suitable mounts on the ship's structure. All N/V mounts are to be under Vendor's scope.
All holding down bolts, nuts and spring washers are to be included in vendor's scope.
OEM shall include acoustic enclosure for the Harbour DG if required, to meet the noise & vibration equipment of the ship. Further the requirement of the acoustic enclosure will be discussed during pre-bid in light of the noise consultant recommendation for noise and vibration of the ship.

2.2 Quantity: 1 no. per ship

2.3 Technical Requirements

Parameters of Diesel Engine	
Power	450 kW x 1
Model	Type approved by Class
Main Dimensions (mm) L x B x H	To be indicated by OEM (Suitable maintenance space to be indicated)
Cylinder configuration	In line/ VEE
MCR	To be indicated by OEM
Fuel	Low Sulphur HFHSD
Engine RPM	1500
Cylinder Dia (mm)	To be indicated by OEM
Stroke (mm)	To be indicated by OEM
No of cylinder	To be indicated by OEM
MARPOL Compliance in respect of NOx emission	IMO Tier II
Starting	Direct compressed air
Cooling	2-stage cooling as follows- Fresh water/coolant will cool the engine and Sea water will cool the fresh water/coolant.
Fuel consumption(gm/kW-hr.)	To be indicated by OEM
Lube oil consumption (gm/kW-hr.)	To be indicated by OEM
Recommended lubricating oil	To be indicated by OEM
TBO (hrs)	To be indicated by OEM
Maintenance routine	To be furnished by OEM
Dry weight (kg)	To be indicated by OEM
Fresh water-cooling system on engine including gauge and low-level alarm (mounted on engine)	One set per engine
Lub-oil system (wet sump engine) mounted on engine (One engine driven lube oil pump, priming pump, dip stick, low level alarm, other instrumentation as per class, duplex type filter with changeover without stopping engine and set of bellows.	One set for each engine with necessary safeties and alarm
Fuel system shall be fed from daily service tanks, through duplex strainer, engine mounted duplex filters, Booster pump; Fuel oil leakage from nozzles shall be led to fuel oil drain tank with high level alarm, electronically controlled system.	One set per engine with necessary safeties and alarm.
Engine driven LT pump	One no per engine
Engine Driven HT pump	One no per engine
Governor	Electronic Governor meeting class specifications
Flywheel cover	One set for each engine
Overspeed protection	Engine speed not to exceed rated speed by 10%

TVC	To be done by OEM (approved by class to be arranged by OEM)
Dry Weight (Kg)	As per Standard OEM design
Noise attenuation including silencer & SCR	35 dB
IP Rating	IP 44
Pressure Transmitters, pressure switches, sensors	Oil and water Temperature: PT 100, 3 WIRES Oil Pressure: 4 to 20mA For levels: digital contacts suitable for 24 V DC/10mA

Parameters of AC Alternator	
Model	Marine type Approved model (IACS if required)
Speed	1500 RPM
System	AC 415V, 3 phase, 3 wire, 50 Hz
Rated P.F.	0.8
Enclosure	IP44
Type	Salient pole brushless synchronous AC altemator designed for marine duty. Exciter to be "oversized' for handling of failure modes.
Efficiency	95%
Bearing	Two end frames mounted. Sleeve bearings
Insulation	Class - F insulation. Temperature rise in accordance with Class rules.
Cooling	Air Cooled.
Cooler leakage tray with overflow drains and leakage	Leakage detector with alarm contacts
Anti–condensation heaters	230 V AC, 1phase, 50Hz
Reactance	To be optimized and matched to system.
Dry weight (kg)	To be indicated by OEM
Excitation Panel	Alternator mounted
AVR	Single AVR; Spare AVR in OBS.
IP Rating	IP56
Space heaters	Installed in the frame of each generator to prevent the condensation of moisture when the generator is idle.
Terminal Box	Protection IP44. Brass cable entry glands Separate terminal box to be provided for power and control cables. Terminal plate to be of nonmagnetic material & cable glands included in scope of supply

Other Accessories (any deviation or alternate arrangement to be indicated by OEM)	
Common Base Frame	Suitable for installation of engine and alternator
Exhaust Gas Bellow	As required and recommended by OEM
Flexible expansion Bellow in exhaust pipe inside funnel	As required and recommended by OEM
Exhaust Gas Silencer with spark arrester with resilient mounting. (Damping Capacity = 35 dBA).	1 set
All engine and alternator external connections are to be provided with flexible pipes with matching mating flange/adaptor complete with fasteners. Fuel line to be provided with fire retarded hose	1 set
Hand turning gear/rod	1 set
Exhaust duct hangers & compensators	As required and recommended by OEM
Fresh water preheater per engine	1 no. (KW rating to be specified by OEM).
Fresh water-cooling system on each engine including gauge and low-level alarm (mounted on engine)	1 set (KW ratings for pump to be specified by OEM).
Signals from pressure transmitters, pressure switches, sensors in the scope of supply of Harbour DG.	Oil Pressure: 4 to 20mA For levels: digital contacts suitable for 24V DC / 10
EMI / EMC	Electronics components to comply IEC 60533 concerning EMC
Electro static Discharge (ESD)	System design for ESD control and protection at PCB/Module/Assembly and unit level
Tally & diagram plates	Anodized aluminium / Naval brass / Flame retardant type material
Cable glands	As per BS6121 / EN 6244-2013

Lifting arrangement	Collar eyebolts or suitable lifting lugs

Broad Specifications for Local Control Panel (LCP).

Quantity	One set
Model	Marine Type Approved
Mounting	Bulkhead mounted on suitable mounts
Operating Voltage	24V +/- 2V DC
Display	HMI
Features of LCP	HT fresh water temperature
	Lube oil pressure
	LT fresh water pressure
	Starting air pressure
	Fuel pressure
	Lube oil temperature
	Engine speed
	Hour meter
	Sea water pressure
	Exhaust temperature for each bank
	Fuel filter differential pressure
	Oil filter differential pressure
	Voltage
	Starting switch (24V DC)
	Start/ Stop push button
	Remote/ Local selector switch
	Low oil pressure (Alarm & Trip)
	High oil temperature (Alarm)
	Low fresh water pressure (Alarm)
	HT freshwater temperature (Alarm & Trip)
	Low level in expansion tank (Alarm)
	Low starting air pressure (Alarm)
	Over speed (Trip & Reset)
	Exhaust temperature for each bank (Alarm)
	Low Voltage (Alarm)
	Emergency stop (push button with protection)
	Remote/ Local start indication
	Power ON/ OFF Indication
	Pre-lube pump ON/ OFF switch cum indication
	Shut-down override
Potential free contacts	Outputs of all parameters for control & monitoring using Remote Control System (RCS)
Interface with RCS	Output for RCS to be provided with suitable signal isolators for satisfactory interface
Auto start from blackout	Software to be configured to permit Auto start from blackout, engine mounted duplex filters, Booster
Type approval	pump; Fuel oil leakage from nozzles shall be led to Marine type approved by IACS

2.4 **Engine System Details [Indicative List]**.

2.4.1 **Air Intake System Items Required**:

(a) Intake Air Filter – Engine Mounted
(b) Air Intake Manifold –Engine Mounted
(c) After cooler –Engine Mounted
(d) Vacuum Indicator –Mounted on Intake Piping

2.4.2 **Exhaust System Items Required**:

(a) Exhaust Manifold – Dry Type –Engine Mounted
(b) Exhaust gas turbocharger

(c) Exhaust Bellow from each Bank of engine with counter flange & fasteners
(d) Stainless Steel bellows with companion flanges & fasteners for common exhaust outlet –as required.
(e) Exhaust Y-Pc./ connection Pc. with counter flanges and fasteners (Dimensions to be finalized after discussion with GRSE).
(f) Exhaust silencer with spark arrestor (35 dbA) with Steel Counter Flange & Fasteners.
(g) Exhaust temp. sensor at each Bank for remote indication.
(h) Exhaust sensor for temp alarm for each bank.
(i) Flexible expansion bellows in exhaust pipe inside funnel

2.4.3 **Fuel System Items required**:

(a) Duplex fuel filter with differential pressure indicator with alarm contact – base rail mounted.
(b) Fuel Pump with electronic governor – engine mounted
(c) Fuel injectors.
(d) Check (Non-Return) valve in fuel supply & drain lines.
(e) Wire braided hoses between filter and pump (meeting class requirement)

2.4.4 **Cooling system Items required**:

(a) Engine driven fresh water pumps (HT & LT)
(b) Engine mounted Heat Exchanger with counter flanges, gaskets, bolts and nuts.
(c) Pre-heating unit
(d) Thermostatic temperature control valve
(e) Engine mounted SW pump
(f) Corrosion inhibitor coolant
(g) T-pc connection on pump outlet to connect emergency S.W. Supply connection from fire main and for providing cooling S.W. for alternator.

2.4.5 **Lubricating oil system Items required**:

(a) Harbour generator set is to be of wet sump and to have an independent lubricating oil system.
(b) Lube Oil Sump – Engine Mounted
(c) Engine driven lube oil pump with built-in safety valve
(d) Lube Oil Cooler – Fresh Water Cooled Integral with Engine Coolant Circuit – Engine Mounted.
(e) Oil filler tube with cap and lube oil dipstick oil level check – Engine Mounted
(f) Lube oil filter (Duplex type)
(g) By-pass Filter engine Mounted
(h) Lube oil Hand Draining Pump Base Rail Mounted.
(i) MD Lube oil priming pump
(j) Lubricating oil system for the engines to be in accordance with the manufacturer's recommendation.
(k) Breathing pipes from engines crank cases to be led to top of funnel. Pipes will have efficient drain.
(l) The flushing of LO service line of engine shall be done by the system oil up to cleanliness class as recommended by maker.
(m) The grades of lubricant, etc. shall be as prescribed by the generator engine manufacturers and shall be approved by the OWNER.

2.4.6 **Two bearing sensors**: Local and remote monitoring of all parameters of motors shall be made available at various locations.

2.4.7 **Generator Speed**: The Generator engine RPM and speed shall be from dual sensors.

2.6 **Control and monitoring systems Power Units**

- Power supply unit for supplying isolated dual 24VDC to the engine.
  - Cabinet for Bulkhead Mounting
  - Protection: IP-56
  - Main Components:
  - 230VAC/24VDC power supply converter
  - Miniature Circuit Breakers (MCBs) and terminals Each converter is dimensioned for 100% load. Failure of one supply will cause automatic takeover by the second supply.
  - Power Supply available from ship side
  - Main: 230VAC / abt. 150W (to be confirmed by the vendor)
  - Backup: 24VDC/ abt. 150W. (to be confirmed by the vendor)

2.7 **Special Requirements**

(a) The OEM shall supply an Electronic Fuel Controller (EFC) along with a remote speed sensing switch. EFC should be of fast response type suitable for necessary commands from synchronizing unit controlled remotely and from power management system.
(b) Since the operation of Harbour DG are to be interfaced with CCAMS, necessary sensors for instrumentations and controls are to be supplied by DG manufacturer duly wired up to JB on engine/LOP.
(c) Generator protection (under frequency, over frequency, under voltage, over voltage, reverse power and over current) to be provided.
(d) The OEM should fully interact with the suppliers of the main switchboard and automation equipment. The OEM should ensure that all necessary pockets and other provisions are made on the engine / alternator or on the built-in piping of the engine wherever necessary to fit necessary sensors for remote control and monitoring and for power management. The OEM must provide all required signals for achieving a fault free interface with centralized alarm monitoring system of vessel.
(e) Harbour generator engine should be capable of starting locally and remotely. Necessary interlocking to be provided for the same. All necessary instrumentation, even not specified in this specification but required for satisfactory operations as per classification rule requirements, is also to be supplied by the OEM.
(f) All safety/ sensors/ switches mounted on the engine will be of good quality and reputed make. The output signals will be finalized after selection of Harbour DG and prior to finalization of alarm monitoring system. OEM shall finalize the details and numbers of sensors / safety / switches in detailed engineering as required for remote control and monitoring power management system and classification societies requirements and supply of all these.
(g) All safety/ sensors/ switches mounted on the engine to be such that their functionality could be checked without removing them.
(h) The diesel engine should be fitted with a separate over speed device so adjusted that the speed cannot exceed the maximum rated speed as per class requirement.
(i) Load trials of Generator engine with all safety checks (cold & hot) is to be done at harbour prior going to sea trial. OEM is requested to provide the list of all the parameter with alarm and trip value (Ex-Lub oil, fuel oil, overspeed) with the technical offer.
(j) Each alternating current generator, unless of the self-regulating type, is to be provided with automatic means of voltage regulation; voltage build-up is not to require an external source of power.
(k) The voltage regulation of any alternating current generator with its regulating equipment is to be such that at all loads, from zero to full load at rated power factor, the rated voltage is maintained within □2.5 per cent under steady conditions. There is to be provision at the voltage regulator to adjust the generator no load voltage.
(l) Generator, and its excitation system, when operating at rated speed and voltage on no-load are to be capable of absorbing the suddenly switched, balanced, current demand of the largest motor or load at a power factor not greater than 0.4 with a transient voltage dip which does not exceed 15 per cent of rated voltage. The voltage is to recover to rated voltage within a time not exceeding 1.5 seconds.
(m) The transient voltage rise at the terminals of a generator is not to exceed 20 per cent of rated voltage when rated KVA at a power factor not greater than 0.8 is thrown off.
(n) Generator is to be capable of maintaining under steady state short circuit conditions a current of at least three times the full load rated current for a duration of at least two seconds or where precise data is available for the duration of any longer time delay which may be provided by a tripping device for discrimination purposes.
(o) Speed control system of the generator set to be supplied by engine supplier.
(p) All machinery to be designed and installed for normal operation with unmanned compartment in accordance with the rules and regulations as stated in this specification.
(q) Protection Devices Generators Electronic protection relays to be installed for:

- Short circuit
- Over current with preferential trip
- Reverse power
- Differential protection
- Excitation loss
- Under voltage
- Earth fault detection
- Non-essential load trip in 2-step.

2.8 **Integration with CCAMS (Computerized central alarm monitoring system)**

Power Management system will be installed on board (other OEM's scope). The system shall be designed to control and monitor the Harbor Generator (1 No) on board through power management system modules integrated with CCAMS. The system manages the plant in split or non-split bus bars operations preventing black outs and optimizing generator load by disconnecting / connecting essential consumers (preferential tripping) and starting/stopping

generator the system shall automatically reconfigure generator/consumer configuration after a blackout. The system shall be capable of carrying out the following required functions and any other which would be mandatory to meet class rules.

(a) Load depending on start and stop
(b) Safety start and stop
(c) Shutdown
(d) Schematical Load Sharing
(e) Selection of generator priority
(f) Splitting of non-essential load groups
(g) Load-dependent starting and stopping of generators (Load dependent stop shall be possible to disable)
(h) Automatic standby start after black-out and automatic sequential restarting of essential equipment
(i) Sequential starting selection/automatic change-over of generators
(j) Monitoring of DG parameters
(k) Load and frequency control
(l) Heavy consumer control/preferential trip.
(m) Automatic synchronization and load distribution and sharing to the busbars
(n) Selection of standby sequence
(o) Re-establish power after blackout
(p) Controlling generator voltage and reactive load distribution
(q) Load distribution of active power (kW) for symmetric, asymmetric or (fast) load
(r) Handling of heavy consumers
(s) Limitation of generated effect in order to meet restrictions regarding short circuit power (automatic load shedding)
(t) Start blocking by fault detection (short-circuit)

For monitoring & control of DG parameters from PMS, local control of DG set shall have the provision for necessary integration with PMS. The above requirement of monitoring & control of DG parameters from ships automation system is indicative one & type & no. of DG parameters for integration with ships automation system will be decided during detailed engineering stage. Firm to provide necessary interfacing units, sensors, potential free contacts, terminals & other accessories in local control panel complete in all respect for interfacing of DG parameters with ships integrated automation system.

2.9 **Starting system**:

(a) The engine is to be arranged for air starting.
(b) Engine should be arranged for local and remote starting. The solenoid valve mounted on engine at starting air inlet, for local starting of engine, should be operable for remote starting and for power management system.
(c) The air starting system comprises starter motor, 24 V.DC start solenoid with manual override, relay valve, fog lubricator, moisture trap, push button, Pressure Reducing Valve etc.
(d) The OEM should comment on the reliability of the starting air system, especially on the air piston of the air staring system so that the generator should not start inadvertently.
(e) The air starter motor should be rigidly mounted on engine housing.

2.10 **Governor**:

(a) Diesel engine should be fitted with a suitable Electronic governor to provide speed regulation in accordance with classification societies rule requirement. The governor shall be of fast response type controlled remotely from power management system.
(b) The electronic governor to be electrically operated and controlled from the DG control panel / Main Switch Board / CCAMS
(c) Spring return selector actuator for adjustment of speed to be provided loose for mounting in Switchboard.

2.11 **AVR**: Type Approved, with voltage variation potentiometer.

Note: Electronic speed governors & its actuators with AVR of Harbour DG to be type tested/Type approved meeting class requirement.

2.12 **Space Heaters**

Space heaters to be installed in the frame of generator to prevent the condensation of moisture when the generator is idle and fed from 230V AC source and interlocked with generator circuit breaker.

2.13 **Instruments, Gauges, Alarms and Safety Equipment**.

Local Control panel

(a) One number local control cum audio/video panel for Harbour DG set should be in the scope of OEM. PLC based local control panels with LCD screens should be supplied. The parameters will be displayed in digital on the LCD screen.

(b) The OEM should provide the dimensions of local control panel.

(c) Local control panel will be bulkhead mounted. The local control panel will consist of the following as a minimum.

(i) Digital HT Fresh water temperature gauge on LCD panel
(ii) Digital Lube oil Pressure gauge on LCD panel
(iii) Digital LT Fresh water pressure gauge on LCD panel
(iv) Digital Starting air pressure gauge on LCD panel
(v) Digital Fuel oil pressure gauge on LCD panel
(vi) Digital Lube oil temperature gauge on LCD panel
(vii) Digital tachometer for engine speed on LCD panel
(viii) Sea Water Pressure
(ix) Hour meter
(x) Starting switch (24 V DC)
(xi) Voltage
(xii) Start / stop push button.
(xiii) Remote / local selector switch.
(xiv) Exhaust temperature gauge for each bank.
(xv) Low lube oil pressure (alarm and trip).
(xvi) High HT freshwater temperature (alarm and trip).
(xvii) Over speed (trip & reset).
(xviii) Emergency stop (push button, protected)
(xix) Low level in expansion tank (alarm)
(xx) Remote /local start indication
(xxi) Power ON I OFF indication.
(xxii) High lube oil temperature (alarm)
(xxiii) Priming pump on / off switch cum indication.
(xxiv) Audible Hooter to be provided for all the alarms.
(xxv) Fuel filter Differential Pressure
(xxvi) Shut down override – Refer Part-5 Chapter -22 Sec-2.5.1 as per Class Rules.

(h) The duplex lube oil filter arrangement to be such that it could be changed over from the used to the standby one without stopping the engine.

(i) Gauges of critical parameters to be analogue type as required by class.

(j) Potential free contacts/necessary outputs for all the above to be provided for providing control/ monitoring from Remote control system. Laminated wiring diagram for alarm I control panel to be provided.

(k) The OEM shall supply control panels for starting, monitoring, and working on 24 V DC (+/-2 V DC).

(l) All pressure transmitters, pressure switches, sensors in the scope of supply of Harbour D.G.

(m) set should give the signals as follows.

(i) Oil Pressure: 4 to 20 mA.
(ii) For levels: digital contacts suitable for 24 V DC /10 mA

(n) Any deviation on above to be clearly indicated with values/specification.

(o) Facility for Display/alarm for temperature of stator windings, bearings, air circuit temperature, cooler leakage etc. to be provided in the local control panel.

(p) Provision for adequate no. of software & hardware signals to be arranged in local control panel for interfacing with power management system & IPMS. Number & type of hardware & software signals required will be communicated to the DG manufacturer during drawing approval of DG set.

(q) Excitation panel:

(i) AVR & other accessories to be fitted in excitation panel.
(ii) Motorized Voltage trim potentiometer, single/parallel switch, QDC potentiometer to be supplied loose for fitting in switchboard. Provision needs to be catered in Excitation Panel for transmitting signals like AVR Failure, Main & standby AVR ON, Diode Failure Indication to PMS.

2.14 **Output for remote control**

(a) Output for remote Monitoring & Control to be provided with suitable signal isolators for satisfactory interface with CCAMS. Two separate sets of output /signals as required for interface with CCAMS to be provided.

(i) Generators engine start & stop indication
(ii) Generator lube oil low pressure alarm and trip for each generator
(iii) Generator lube oil high temp. alarm for harbour generator
(iv) Generator engine jacket water high temp alarm and high temperature trip for each generator
(v) Generator RPM indication and over speed trip for each generator.
(vi) Engine exhaust gas temperature indication
(vii) Fuel consumption indication
(viii) FW expansion tank low level alarm for generators

(b) Any other parameters as required by genset OEM for remote monitoring.

(c) Along with the Local Control panel, remote panel in ECR/ Wheelhouse are to be included. Instrumentation to monitor all parameters while operating the set as per requirement of Class is to be provided.

(d) Alarms (audio-visual) are to be provided as per Class rule. The sets are to meet requirement under unattended machinery space to obtain SYJ/ ACCU class notation. Extent of instrumentation with provision of auto start/stop/auto change over should be provisioned.

(e) Harbour DG set should be suitable for auto start from blackout.

2.15 **Terminal box and cable glands**:

Suitable watertight terminal box of protection IP 56 and of ample size fitted with brass cable entry glands should be provided. Separate terminal box to be provided for power & control cables. Details will be furnished during detail engineering should be used as power output feeders.

Terminal plate through which these cables are passing should be of non-magnetic material to reduce eddy currents. The box should contain all main terminals for power supply and aux. terminals for AVR, Exciter and Heater etc. A lamination diagram plate should be provided for the local control panel. Necessary terminals will be provided on the junction box. Cable glands to be included in scope of supply.

2.16 **Output data** Alternator maker's should furnish the following details:

(a) Rated Efficiency
(b) stator resistance
(c) stator reactance
(d) Synchronous Reactance (Direct Axis)
(e) Transient Reactance (Direct Axis)
(f) Sub-transient Reactance (Direct Axis)
(g) Negative Sequence Current*
(h) Transient open-circuit time constant (Direct Axis)
(i) Sub-transient open-circuit time constant (Direct Axis)
(j) Transients short-circuit time constant (Direct Axis)
(k) Sub-transient short-circuit time constant (Direct Axis)
(l) DC Time constant of synchronous machine
(m) Armature short circuit time constant

2.17 The extent of monitoring required for Electrical Power generating plant to be as per the Table below –

Monitoring of Electric Power Generating Plant – Harbour DG				
System		Required Monitoring (stated by an X)		Comments
		Alarm	Automatic Shutdown of prime mover with alarm	
Generators driven by trunk IC Engines	Lubricating oil pressure, low	X	X	
	Lubricating oil temperature, high	X		
	Fuel oil leakage from high pressure pipes	X		
	Activation of oil mist detection arrangements (or activation of the temperature monitoring systems or equivalent devices of systems or equivalent devices of the engine main and crank bearing oil outlet; or the engine main and crank bearing)1	X	X	
	Pressure or flow of cooling water, low	X		
	Temperature of cooling water or cooling air, high	X		
	Level in cooling water expansion tank,	X		If not

	low			connected to main system
	Level in fuel oil daily service tank, low	X		
	Starting air pressure, low	X		
	Over speed activated		X	
	Fuel oil viscosity before injection pumps or fuel oil temp before injection pumps, low/ high	X		For heavy fuel oil burning engines only
	Exhaust gas temperature after each cylinder, high	X		For engine power above 500 kW/cyl
	Common rail servo oil pressure, low	X		
	Common rail fuel oil pressure, low	X		
	Speed of turbocharger, high	X		Only required for TCs of categories B and C (see IRS Classification Note "Approval of IC Engines"
	Voltage, low	X		
	Frequency, low	X		
	Disconnection of non-essential consumers	X		
	1. Alarm and automatic shut off is to be provided for Engines of 2250 [KW] and above or having cylinders of more than 300 [mm] bore. For engine, one oil mist detector (or engine bearing temperature monitoring system or equivalent device) having two independent outputs for initiating the alarm and shut-down would satisfy the requirement for independence between alarm and shut-down systems.			

Note: The above monitoring requirement is indicating type & to be in line with DG manufacturer standard & class requirement.

CHAPTER – 3 - MISCELLANEOUS REQUIMENT OF EQUIPMENT

All information contained in the SOTR is to be treated as CONFIDENTIAL and not to be divulged to a third party without written approval of GRSE/NPOL.

The equipment is to comply class rules (as applicable) for unit/type test certifications and Quality Control Parameters. The details to be furnished in technical offer.

3.1 **Interface Specifications**:

(a) All the interfaces with engine and alternator are to be provided with suitable counters flange, adapters, cables glands (undrilled) etc.
(b) The vendor is responsible for integration with associate sensors/ equipment.
(c) Interfacing with other ship's equipment/ systems will be finalized by the OEM in consultation with respective system vendors during detail design stage. Necessary hardware required for interfacing with other ship systems shall be provided by the OEM.

3.2 **Noise and vibration**:

(a) In general, low frequency rotation of machinery and/or system is preferred and systems should be selected for their smoothness of operation. Balancing of all the rotating machinery, decoupling it from the hull with appropriate mountings is required.

(b) Vibration calculations and measurements of the Harbour DG and other machinery chosen shall to be carried out by the equipment supplier.

(c) Propulsion motors, generating sets and all other significant rotating machinery to be mounted according to recommendations from Noise Consultant and Supplier in order to meet specified noise and vibration levels according to class requirements and as per attached Annexure -I. Electrical components such as chokes, transformers, rectifiers etc. to be resilient mounted.

(d) Particular attention to be given to selecting equipment with well-balanced components and inherently low levels of noise and vibration.

(e) Appropriate silencing and vibration isolating arrangements are to be provided for the main sources of noise and vibration including main and auxiliary engines,

(f) The selection of Engine, Alternator and mounting system to be such as to eliminate transmission of structure borne noise and vibration in the vessel.

(g) Max. noise level requirements in engine room and propulsion-room to be in accordance with specified class notation for the ship. The vibration and noise levels shall be recorded both during yard tests and during the sea trails under realistic operational conditions.

(h) Where necessary structure-borne vibration from all reciprocating, or rotating machines should be controlled by the following means:
(i) Selection of inherently well-balanced machines
(ii) Use of anti-vibration mounts, or isolators, selected base plates and support: such measures to be applied as required to machines, pipe work, exhausts, etc.

(i) It is anticipated that noise and vibration critical reciprocating and rotating machines, including associated pipe work and services will need to incorporate single-stage isolation. A detailed and thorough analysis of the isolation system specified for the propulsion prime mover (s) is required in order to show compatibility with the noise specification and to ensure compliance with the requirements for limitation of vibration internal to the vessel. The analysis for the isolation system must show that any flexural responses of the diesel engine bedplate will be such that no resonance might arise near any excitation frequencies.

3.3 **Scope of Supply**:

(a) General: The scope includes the supply of equipment as complete in compliance with the requirements as mentioned in this specification
(b) The proposed set (i.e. Engine & Alternator) must have an outstanding track record of performance in the Marine field. The bidder must furnish a "Reference List" in support of track record.

Note: Any other item not mentioned above/ in this but required for successful completion of the system is also required to be quoted.

3.4 **On Board Spares (OBS)**

(a) All necessary accessories, spares and consumables required for installation and uninterrupted operation till warranty period or 02 years whichever is maximum to be supplied as part of the scope.
(b) The vendor required to include class recommended OBS for unrestricted service.
(c) Each spare is preserved, inspected and packed with suitable tag.
(d) Commissioning spares are to be included.
(e) One set of bellows are to be included in scope as spare.
(f) All special tools are to be included in scope. Comprehensive List is to be provided along with bid.
(g) Any sub-system that is required for the operation or a function requested in this specification must automatically be included in the scope of supply and must not be added as additional after the order and delivery of the system.

3.5 **Special Tools and Test Equipment**

OEM shall supply one set of special tools (with toolbox) and test equipment, if any, for on-board maintenance and same shall be furnished along with the offer.

Hand tools are to be delivered according to the Maker's standard delivery, including special tools for removal of pistons, frequency generator, crankshaft deflection indicator and torque setting wrenches for all engine torques.

3.6 **Language**:

For all equipment, the display panels, functional menus, software inputs / outputs, functions and all manuals shall be in English.

3.7 **Documentation**: Documentations shall be supplied as detailed below: -

Sl No	Item	No of pages (appx) to be indicated by OEM	Qty
1	Manuals (included with As-made drawings, CPL/ PIL) Consisting of:- Installation manual Operator manual Maintenance manual Software Documentation		4 Sets of paper Print per ship 4 Sets on CD/ latest digital media per ship
2	As-made drawings (approved by Inspection Authority)		
3	3D model of all equipment/sensor to be provided in .stp format		
4	HAT/SAT Schedules (Approved)		
5	Type Test Certificate, Shop Test Report & Inspection Certificate (IRS & ABS).		
6	Calibration Data/ Certificate		
7	On-board spares list		

(a) All documentations must be in English.
(b) All documents must be legible and user friendly.
(c) All drawings and documents shall contain dimensions and other parameters in metric units (SI Units).
(d) The manuals also should cover all aspects of the system like calibration, post-processing, servicing and troubleshooting, etc.

3.8 **Service of Engineer**: The OEM shall provide the necessary service of engineers to carry out the following activities:
(a) Installation inspection
(b) Connectorisation
(c) Setting to Work
(d) Harbour and Sea Acceptance Trials

Service Engineers shall bring their own test equipment/ calibration kit, tools and adequate spares for installation, setting to work and commissioning at their own cost. OB spares shall not be used for this purpose.

The OEM shall indicate total cost (In Price Bid) for executing all technical activities in the offer. OEM need to give activity wise cost break-up along with Mandays in the price bid. No extra mandays/ payment on this account shall be admissible or considered on completion of total technical assistance.

The OEM shall undertake Installation inspection/ connectorisation / STW/ HAT/ SAT as per time schedule finalized in discussion with Berth officer.

In case of any irregularities in the operation/ performance of the system or non- conformance to specified parameters observed on integration with ship's system, the OEM is bound to rectify the defect. The OEM shall ensure complete responsibility of satisfactory operation of the system on board.

3.9 **Training**

The OEM shall provide an operational and maintenance training course to the crew at GRSEs/ OEM's premises (at owner's cost) / on-board (as applicable). A detailed training package for on board exploitation, maintenance and repair activities along with tools and test kits that would be required for such maintenance shall be offered in connection with STW activities. Training aids comprising of audio - visual / CBT packages (on operation, maintenance and repair activities) are to be provided. The training material will be provided in hard/ soft copies to the participants.

The Firm will arrange for onboard acquaintance and job training for the crew (20 Personnel) of the ship as per their respective area of specialization which includes training for 10 persons at shipyard prior to delivery and the rest onboard. The cost of their local travel, lodging and boarding
/ victualing shall be on Firm's account and deemed to be included in the quoted rates.

The duration and number of personnel recommended for training needs to be indicated and shall be decided during pre-bid.

3.10 **Binding Drawings and documents**: OEM shall furnish following documentation:

At the time of bidding:
OEM shall furnish Installation drawing, Holding down arrangement & schematic drawings (P &ID) for all systems along with BOM.

Post placement of order:
Footprint & interface details including installation drawing with maintenance envelope, GA, CG location and holding down arrangement /mounting details and 3D model (in .stp format) are to be submitted within 30 days. Protocol for AMS, HAT and SAT is to be furnished.

During delivery of store:

(a) Comprehensive manual (system description, alignment procedure, operating manual, troubleshooting repair manual, maintenance manual etc.)- 04 soft copy & 04 sets hard copy.
(b) Comprehensive part list/PIL 04 soft copy & 04 sets hard copy
(c) As made drawings – 04 soft copy & 04 sets hard copy (Class approved/Type approved) d) Shop trial report in triplicate.
(d) Weight certificate
(e) Footprint & interface details including binding installation drawing with CG location are to be submitted .stp format within agreed time frame.
(f) Brass instruction plate for starting and stopping duly mounted to be provided with each engine/set.
(g) Certificates from Class in triplicate.

(Electronic version of all documents are also to be submitted)

GRSE shall prepare ship's related production drawings based on OEM's drawings duly approved by NPOL. OEM shall provide binding drawings in 2D (Auto CAD) / 3D(STP) format.

Any changes in approved drawings (if recommended subsequently by GRSE/ QA/ NPOL/ Inspecting agency) should be brought to the notice of GRSE immediately and concurrence/ approval of revised drawings are to be obtained by the OEM from the approving authority as indicated in the SOR/P.O.

OEM shall ensure that equipment is manufactured and delivered to the shipyard without any deviation from approved drawing of the equipment.

3.11 **QAP**

OEM is required to submit QAP covering all stage inspection, alignment check at shop/on board, calibration of sensors/ gauges prior to kick start, HAT (load trial: No load, 25% Load, 50% load, 75% load, 100% Load and 10% overload). QAP is to be prepared by OEM complying the class & SOTR requirement and same is to be submit to class for final approval. QAP is to be submitted to Class, Owner and shipyard. Final approved QAP is to be handed over to GRSE(QA).

3.12 **Quality Assurance**:

The quality of the equipment/stores delivered according to this SOTR shall correspond to the technical conditions and standards valid for the deliveries of the same equipment in OEM's country or specifications and shall also include therein minor modification to the equipment suggested by the BUYER without any commercial implication. Such modifications will be mutually agreed to. The OEM confirms that the equipment/stores to be supplied under this contract shall be new i.e. not manufactured before (Year of Contract) and shall incorporate all the latest improvements and modifications thereto and spares of improved and modified equipment are backward integrated and interchangeable with same equipment supplied by the seller in the past if any. The seller shall supply an interchangeability certificate along with the changed part numbers wherein it should be mentioned that item would provide as much life as the original item.
The item should be of the latest manufacture, conforming to the current production standard and having 100% defined life at the time of commissioning of the ship.

3.13 **Factory Acceptance Trials (FATs)**:

FAT for the first system will be carried out at OEM premises by a team of NPOL and GRSE and dual classification society. The FAT team will also scrutinize the Environmental test reports & EMI /EMC Results. Systems which does not requires FATs will be accepted against OEM certifications and duly filled up ATR. Vendor/OEM need to submit FAT document/protocol to NPOL & classification society within 03 (three) months of placement of order for approval. FAT will be conducted at OEM premises as per approved FAT protocol. A copy of Final FAT Report shall be submitted by OEM to GRSE (CDO) within one month after FAT. SBN & ABN trial of DG is to be conducted by OEM during FAT and report along with acceptable limiting value is to be provided to GRSE/NPOL by OEM.
Vendor need to submit FAT document to NPOL within 03 (three) months of placement of order. A copy of Final FAT Report shall be submitted by the firm to GRSE (CDO) within one month after FAT.

3.14 **HATs/ SATs**:

HATs/ SATs Schedule along with Procedure i.e., GRAQ shall be prepared by vendor and the same need to be forwarded to GRSE/NPOL (N) for approval within 06 (six) months of Purchase Order issued to vendor. Only approved HATs/ SATs schedules along with Procedure need to be forwarded to GRSE.

3.15 **Test and Trials**

All functions of the equipment including accessories and control system shall be tested. A detailed testing procedure, worked out by OEM, shall be submitted to Owner/Class for recommendations prior to start of the test program. All trials/tests shall be done in realistic conditions, in deep and shallow waters as applicable.

3.15.1 **Harbour Acceptance Test (HAT)**:

All the equipment and systems shall be commissioned and tried out at Harbour in floating condition. A HAT according to schedule recommended by OEM shall be conducted and the system shall be commissioned by the shipyard.

3.15.2 **Sea Acceptance Test (SAT)**:

Detailed Sea Acceptance test (SAT) shall be conducted to qualify the system for its functionality and application and to comply with the specification in total. Equipment that requires SAT in deeper waters and specific site conditions to prove the equipment compliance to specification, shall have to be arranged in such areas suitable to the yard. Suitability of location should be confirmed by the shipyard in consultation with NPOL and intimated to the OEM.

All services, spares, consumables will be OEM scope.

3.16 **INPUTS REQUIRED FROM SHIP SYSTEMS**

3.16.1. **Power Supply requirement**:

The Governors on diesel engine driving electric generator are to be capable of automatically maintaining the speeds and frequency within following limits:

(a) Transient frequency variations within 10% of the rated frequency with a recovery time to steady state conditions not exceeding 5 seconds, when the maximum electrical step load is switched on or off.

(b) Momentary variations of 10 per cent of the maximum rated speed when the rated load of the generator is suddenly thrown off, provided this does not cause the intervention of the over-speed device.
(c) Momentary variations of 10 per cent of the maximum rated speed when 50 per cent of the rated load is suddenly thrown on followed by the remaining 50 per cent load after an interval sufficient to restore the speed to steady state. Steady state conditions should be achieved in not more than 5 seconds.
(d) At all loads between no load and rated load the permanent speed variation is not to be more than 5 per cent of the maximum rated speed.
(e) Application of electrical load in more than 2 load can only be permitted on the condition that
 the design of the ship's electrical system enables the use of such generator sets
 such a provision is made in the design stage and same is approved while scrutinising the drawings

3.16.2 Power supply characteristics of ships main AC supply

The following outputs will be available in the ship system. The details of is appended below –

(a) 690V, 3 Ph, 50 Hz.
(b) 415V, 3 Ph, 50 Hz.
(c) 230V, 1/ 3 Ph, 50 Hz.
(d) 24VDC

Voltage	Normal Voltage Load range tolerance Average Line to Line value of 3 phase system Line to Line voltage of 1 phase of 3Ph system	690V 415V 230V ±8% ±9%
	Maximum Unbalance Maximum Modulation Transients (Excluding Spikes (average line to line value for 3 phase system) Frequent Transients High Limit Low Limit Recovery time	±2% ±2% ±9% -13% 0.5 Sec
Wave Form	Maximum Individual Harmonic Maximum Total Harmonic	3.5% 5%
Frequency	Nominal Frequency Load range Tolerance Constant Load Tolerance Modulation	50 Hz ±2.5% ±0.5% ±0.25%

3.17 **Technical requirement**:

3.17.1 **Design**

The Equipment and other associated components shall be designed, manufactured and tested for continuous operation with standing ship's motion, vibration, and ambient conditions. The size and weight shall be kept to minimum consistent electrical and mechanical requirements. High Quality of work man ship shall be employed in manufacturing equipment.

3.17.2 **Enclosure**

The enclosures of electrical and electronic devices and control panels shall be fabricated from 14 SWG mild steel sheets conforming to IS-2062.The equipment shall be designed so that all components may be removed from the front of the cubicles with the front cover only removed. There shall be no hidden connection. All the components of the equipment should have easy access for removal/ refit.

3.17.3 **Vibration**

All the equipment will be marine type, robust in construction and will meet the ship vibration, The equipment shall be designed with the requirements of the specified Classification Society.

3.17.4 **Internal Wiring**

Internal wiring of the equipment shall be carried out with LFH (Limited Fire Hazard) cables suitable for marine application.

3.17.5 **System Cables Supply & Connectorisation**

All interconnection cables including network & interface cables for interfacing to other equipment/ systems shall be supplied by OEM along with the system. Connection of all equipment, sub-units, sensors etc. and termination of all cables including network cables & interfacing cables at vendor's equipment end are included in the scope of the Firm. Manpower required for connectorisation work on board ships shall be arranged by the Firm. All materials & tools required for connection will be in the scope of OEM. Connectors suitable for Yard supply cable shall be supplied by the OEM wherever necessary. The OEM is also required to carry out measurement of insulation resistance of the cables and same is to be offered for inspection to inspecting agency. OEM to specifically indicate if any of the system cable is required to run in separate route away from power supply cables. However, laying of cables and termination of cables to the shipyard supplied equipment/ items are not in the scope of the Firm.
All cables including interface cable, cable assembly will be supplied by the OEM along with the deliverables. Cables should be of LFH type. All power cables shall be EBXL type. Length of cables will be intimated by yard on receipt of single line diagram from the firm. Length restriction of cables will be intimated by the OEM in single line diagram. Cable specifications (data sheet) and quotation with price per meter length of each cable shall be forwarded with the offer. Cables are to be supplied preferably in single lengths.

3.17.6 **Installation Material**

One set of installation material that includes special tools if any, plugs, adapters, mating flanges, sockets (with accessories), pins and cable lugs, shock/vibration mounts etc. as required for satisfactory completion of system installation on board ship should be supplied. All materials required for connectorisation shall be in the scope of the vendor.

3.17.7 **Components**

All components shall be of approved Marine type. Standard specification and grade of material of each component used shall be indicated in the binding drawings. Make and type of components are to be listed in the binding drawings. Necessary Approved Certificates /Documents/ Reports need to be submitted along with equipment binding data.

3.17.8 **EMI/ EMC**

All equipment / systems being fitted onboard are to be EMI/ EMC compliant and requirements in IEC 60533 concerning EMC, "Electromagnetic Compatibility of Electrical and Electronic Installations in Ships", to be fulfilled as a minimum. COTS equipment are to comply with IEC 60533 or equivalent standards. All equipment shall have the provision of grounding, bonding and shielding as per NECP 500. The system should not induce any EM interference in other systems. The OEM should also indicate if any additional precaution/measure is necessary for the Yard to take during installation/ cable laying. The Vendor is required to implement recommendations as provided by EMI / EMC consultants as per Annexure-II.

3.17.9 **ESD Protection**

The system design will take into account adequate measures for Electro Static Discharge (ESD) control and protection at PCB/module/assembly and unit level. Each Electro Static Discharge sensitive part/assembly will be duly marked with a symbol/warning. The OEM will use ESD protective materials for handling, packaging storage and transport.

3.17.10 **Cable Entry Glands**

Cable entry glands shall be suitable for marine use conforming to specification BS6121 / EN 62444-2013 for incoming and outgoing cables. Cable glands are to be fitted with the equipment on detachable gland plate. Cable entry shall preferably be from bottom of the panel.

3.17.11 **Tally and Diagram Plates**

Engraved circuit diagram tally, component tally, name tally in English shall be provided of anodized aluminium/ Naval brass/ flame retardant type material. Circuit diagram tally plate indicating details of connection and terminal marking as on the equipment shall be fitted on the backside of the front cover of the panel. OEM's Tally giving OEM's Name, Description of the item including serial number, power output, rating, weight, year of manufacturing etc. are to be provided.

3.17.12 **Lifting Arrangement**

Equipment weighing more than 40 Kg shall be provided with collar eyebolts or suitable lifting lugs/ arrangements. If the eyebolts cannot remain in situ after the equipment has been installed in the ship, provision is to be made for their securing arrangement on the equipment.

3.17.13 **Painting**

Painting shall be suitable for Marine use. The equipment / chassis shall be degreased and cleaned prior to applying etching primer. The equipment shall be painted with rust proof paint and finishing paint as per approved painting specifications/procedures/ OEM requirements. In addition, suitable peel of coating to be provided for all panels prior to dispatch.

3.17.14 **Calibration**

All Instrumentations/ sensors including sensors integrated with main systems shall be calibrated prior to delivery and Calibration certificates need to be submitted with a validity of one (01) year from delivery of vessel. OEM needs to recalibrate all Instrumentations / Sensors in GRSE premises during commissioning stage in case of expiry of Calibration certificates.

3.18 **Interface with ship's other systems**

The OEM shall provide all information required for integration of the equipment onboard the ship. Total equipment integration with all other sub-units (Including other Firms Equipment) will be OEM responsibility. The equipment shall be designed and constructed so that it can be fully integrated with the system to which it interfaces. All components shall be compatible in order that the functional performance of the equipment is not degraded as a result of its integration within the system as a whole.

3.19 **Warranty**:

The equipment with associated controls / instrumentation is to be guaranteed for stipulated performance for a time period as per GRSE STAC/ commercial clause from the date of acceptance/ delivery of vessel.

Extension of warranty: OEM shall mandatorily indicate in the offer, the annual rate for extended warranty period, in the event of expiry of warranty period along with the commercial terms and conditions, if any.

3.20 **Product Support**:

Product support is to be provided to repair / maintenance / service /supply of spares etc. for minimum period of 35 years from the date of delivery of the vessel. Also, bidder will provide OEMs' quotations valid for at least six months period for spare parts for 5 years' service support as per the recommendations of the OEMs.

3.21 **Maintenance Schedule**:

Established maintenance schedules, calibration schedules for each sensors / equipment (wherever applicable) as per OEM are to be provided.

3.22 **Inspection**:

Sl No	Description of Activity	Approval Authority
1	Binding data (Design calculation, Drawing, manual etc.)	Dual Class (IRS+ABS)
2	QAP	Dual Class (IRS+ABS)
3	FAT protocol	Dual Class (IRS+ABS)
4	Manufacturing Inspection Authority	Dual Class (IRS+ABS)
5	FAT (Factory Acceptance Trial) witness.	Dual Class (IRS+ABS)
6	Dispatch clearance	Dual Class (IRS+ABS)
7	Receipt Inspection	GRSE(QA)
8	On Board inspection (II/HAT/SAT)	Dual Class (IRS+ABS)
9	Type test	As per class rule

3.23 **Responsibility**

OEM shall confirm that all the deliverables listed in the offer/supplied is complete and sufficient for satisfactory performance of the equipment/ system. The OEM shall ensure complete responsibility of satisfactory performance of the equipment/ system on board. Additional items if required for proving the system/equipment on board shall be supplied by the OEM without any commercial implication

3.24 **Other terms and conditions**:

3.24.1 **Transportation**

All equipment shall be adequately packed and protected with supports to ensure adequate protection during all modes of transportation. Each unit within a package/container shall be clearly marked for identification. The container shall clearly indicate the item description with caution marks, quantity, weight, size, etc.

3.24.2 **Preservation**

Initial preservation/Packing shall be made suitable for tropical conditions and protect against high humidity.
A separate document giving complete details and instructions for storage, preservation, handling and transportation after delivery is to be supplied. The OEM shall indicate the delivery schedule, transport, packing, preservation, insurance, etc.
Vendor to ensure Preservation for equipment in such way that there will be no deterioration of electronics during prolonged storage time. Details of the preservatives used and the preservation and de-preservation procedure while in store & also onboard preservation procedure will be submitted by OEM. Requisite preservatives (with proven valid shelf life) will be supplied for carrying out re-preservation work by GRSE, when necessary, as per procedure provided by OEM. Battery units for the system, if any, shall be supplied during STW/ commissioning stage.
The equipment to be supplied in preserved condition valid for minimum two-year duration, post receipt equipment at GRSE.
Extension of Preservation: OEM shall mandatorily indicate in the offer, the annual rate for extended preservation of equipment, in the event of expiry of preservation period along with the commercial terms and conditions, if any.

3.24.3 **Price**

Quoted price is to include itemized price list of major components of the equipment, spares and other activities included in the scope such as services of engineers as required for installations, testing, commissioning and training etc.

3.24.4 **Packing List**

The OEM will provide a complete list of deliverables/complete packing list indicating all units, sub units, cables, installation materials, OB spares, documentation etc. at least one month prior to delivery for codification purpose and to incorporate the same in order copy or amendment of the Purchase Order as applicable.

3.24.5 **Essential Clause**

(a) The equipment/ item is to be weighed in the presence of Inspecting Authority and a Weight Certificate is to be submitted at the time of delivery of the equipment duly signed by Inspecting Authority. The specified Weight of Equipment / Item is to be strictly maintained. However, if the actual weight of the equipment varies by more than 1%, then the same should be intimated to GRSE.

(b) All the OEMs are to furnish the binding dimensions of the equipment within the tolerance limit of 2%, which should be strictly maintained during delivery of the equipment. However, no change in footprint dimensions will be accepted.

3.25 **Scope of offer**:

The following information applicable for equipment/ system shall be supplied with the initial offer:

(a) System overview and proposed system configuration
(b) System description with Block diagram, System components, System operation including interfaces with other on-board systems.
(c) Outline drawings of the equipment indicating overall dimensions, weight, CG and maintenance envelope.
(d) Inter unit cable diagram with cable specification including interfaces.
(e) Power supply scheme for the system indicating power consumption of individual units.
(f) Heat dissipation of the main equipment, devices and sub-units
(g) Details of other ship services required.
(h) Tools required for installation and maintenance.
(i) Complete Installation recommendation
(j) OEM's list of spares for installation
(k) Delivery time from receipt of order
(l) Trial and commissioning time for complete system on board

(m) Part identification list at subunits level
(n) List of main equipment included in the standard scope of supply.
(o) List of accessories included/ not included in the standard scope of supply.
(p) List of installation materials and system cables included/ not included in the standard scope of supply.
(q) List of optional units and accessories not included in the standard scope of supply.
(r) List of equipment required for installation and operation of the equipment and not supplied by the OEM.
(s) Un-priced bid.

3.26 **Security**:

The information about the ship and the requirements mentioned in the SOTR are not to be communicated to any third party without prior approval of GRSE/ NPOL.

3.27 **Drawing Approval**

3(Three) copies of binding installation drawing and system drawings/documents are to be forwarded to the yard within 30 days of placement of LOI for GRSE comments on Installation Angle, in consultation with owner.
OEM is to submit the revised Drawings/ documents post incorporation of GRSE /owner comments to Classification society copy to GRSE for final approval. Modification suggested by Classification society shall be incorporated by OEM. The final approval from classification society of the equipment along with accessories/part and control system is the responsibility of OEM. The Drawings/ documents requiring approval by Inspecting Authority, same shall be obtained by OEM from Inspecting Authority.
Approval of drawings by the Class and Flag Authority to be obtained by the OEM as applicable.
"Flag Authority" Where the term "Flag Authority" appears, it refers to: The Maritime Authority of India.
Digital files of the drawings also need to be submitted to the owner in native format
“(.dwg/.docx/.iges/.xlsx/etc.)” format.

3.28 **Inspection & test**

Equipment are to be supplied duly inspected, tested and certified by Classification Authority (IRS & ABS) as applicable.

(a) QAP for the equipment/ items is to be prepared by OEM to meet the Class requirement and to be submitted to Inspection Authorities for approval. Final approved copy of QAP is to be submitted to GRSE(QA) for reference/ records.

(b) Trial / HAT documents (GRAQ), based on which trials will be carried out, are to be submitted by the OEM.

(c) Certificates Required: Following certificates, but not limited to, shall be provided:
(i) All certificated required by Classification Society
(ii) Shop test/ factory acceptance test certificate.
(iii) Statutory certificates

(d) Machines intended for essential services shall undergo tests specified in Table 1. Tests, if any relevant required by the national standards are also to be carried out. Type tests are to be carried out on a prototype machine or on the first of a batch of machines and routine tests carried out on subsequent machines.

(e) During additional high voltage tests on a machine which has already passed its tests or on machines after repair, the voltage of such further tests is to be 75 per cent of the value given in the Table 2.

Table 1 : Tests to be carried out on Electrical Rotating machines

Sr. No.	Tests	A.C. Generators		Motors	
		Type Test	Routine test	Type Test	Routine test
1	Examination of the technical documentation, as appropriate and visual inspection	X	X	X	X
2	Insulation resistance measurement	X	X	X	X
3	Winding resistance measurement	X	X	X	X
4	Verification of the voltage regulation system	X	X6		
5	Rated load test and temperature rise measurement	X		X	

6	Overload test	X	X4	X	X4
7	Verification of steady short-circuit conditions (3)	X			
8	Over-speed test	X	X	X5	X5
9	Dielectric strength test	X	X	X	X
10	No load test	X	X	X	X
11	Verification of degree of protection	X		X	
12	Verification of bearings	X	X	X	X

(a) For machines of less than 100 kW, type tests on prototype machine is acceptable. For 100kW or more, tests on at least the first of each batch of machines are to be carried out.
(b) The report of machines routine tested is to contain the manufacturer's serial number of the machine which has been type tested and the test results.
(c) Verification of steady short-circuit condition applies to synchronous machines only.
(d) Only applicable for machines of essential services rated above 100 kW. For routine tests, overcurrent test may be carried out in lieu of overload test.
(e) Not applicable for squirrel cage motors.
(f) Only functional test of voltage regulator system.

(f) The high voltage test is to be carried out at 1000 plus twice the rated voltage with a minimum of 2000 V on new machines, preferably at the conclusion of the temperature rise test. The test is to be applied between the windings and the frame with the core connected to the frame and to any windings or sections of windings not under test. Where both ends of each phase are brought out to accessible separate terminals, each phase is to be tested separately. The test is to be made with alternating voltage at any convenient frequency between 25 and 100 Hz of approximately sine wave form. The test is to be commenced at a voltage of not more than one half of the full-test voltage and is to be increased progressively to full value, the time allowed for the increase of the voltage from half to full value being not less than 10 seconds. The full test voltage is then to be maintained for one minute and then reduced to one half full value before switching off.

(g) After the high voltage tests the insulation resistances are to be measured using a direct current insulation tester between:

(i) All current carrying parts connected together and earth.

(ii) All current carrying parts of different polarity or phase, where both ends of each polarity or phase are individually accessible. The minimum values of test voltages and corresponding insulation resistances are given in Table 2. The insulation resistance is to be measured close to the operating temperature, or an appropriate method of calculation is to be used.

Table 2 : Minimum values of test voltages and corresponding insulation resistances

Related Voltage VR (V)	Minimum Test Voltage (V)	Minimum Test Insulation Resistance (MΩ)
VR ≤ 250	2 x VR	1
250 < VR ≤ 1000	500	1
1000 < VR ≤ 7200	1000	(VR / 1000) + 1
7200 < VR ≤ 15000	5000	(VR / 1000) + 1

3.29 **Support Services**

Product support is to be provided for repair / maintenance / service /supply of spares etc. for entire vessel service life from the date of delivery of the vessel.

3.30 **Quotation**

The OEM should submit the quotation based on this SOTR. The following are also to be included along with the technical offer.

(a) GA Diagrams/Schematic diagrams
(b) Technical specification /Write up on system operation.
(c) Bill of material

3.31 **Pre-bid**

A pre-bid meeting shall be held within 07 days of publication of tender prior submission of bid to discuss scope of supply and drawing submission and approval procedure

CHAPTER 4 – POWER MANAGEMENT SYSTEM REQUIREMENTS

The Power Management System controls and monitors the generation plant and maintains set power requirements and guarantee stable operation during harbour condition. The devices are connected and communicated as a closed circuit to eradicate single point failures: in cases of unit fall-out, the master functionality automatically moves to another host, always keeping the system safe and reliable.

Power management systems will be carried out by dedicated Protection & Power Management modules, inside the Main Switchboard, or integrated in the IACMS. In case it´s arranged by independent devices, PMS will be connected to the IAS.

4.1 **MANUAL MODE**:

The maneuvers are executed by the operator. The stop and start of generator must be done from the local control panel of generator.

The circuit breakers corresponding to the generator and the consumers must be manually operated from each panel. The corresponding breaker and generator protections will be active. The operator shall be responsible for ensuring the availability of energy to the consumers in the harbor condition.

The breaker command is executed from the front cubicle on MSB415. It is also possible to connect the circuit breaker from its front pushbutton.

In this mode, the operator is fully responsible of the operation.

4.2 **SEMI- AUTOMATIC OR MANUAL-AIDED MODE**:

The actions are performed manually by the operator on the PMS stations. These actions are simple actions such as open/close, start/stop. The PMS supervises actions and does not permit wrong actions nor actions that will become in an undesired situation such as black out, overload of generator.

The breakers command is executed from the front cubicle on MSB415. It is also possible to connect the circuit breaker from its front pushbutton.

4.3 **AUTOMATIC MODE**: The actions are performed by the PMS

PMS Functions. The PMS functions are the following: -

- Manual Start/Stop.
- Automatic Start/Stop or equivalent action for steam control, if any, when the turbine start/stop is not advisable.
- Load dependent Start/Stop or equivalent action for steam control, if any, when the turbine start/stop is not advisable.
- Load transfer.
- Black out recovery.
- Sequential restarting of essential services after black out recovery.
- Sequential starting selection / automatic changeover generators. Gen set priority.
- Automatic synchronizing and load sharing.
- Operator-initiated synchronization and de-loading.
- Load and frequency control.
- Heavy consumers control / preferential trip.
- Automatic operation modes.

4.4 **PMS/ IACMS**

The main function of the system would be operation, monitoring, of Harbour DG, operation control and protection of power generation and distribution machineries from the prime mover till the consumer level. One console each will be provided for the main Switchboards. PMS should have following features:

Auto Synchronisation and paralleling of generators.

- Active load sharing.
- Max load setting capability.
- Auto load shedding.
- Central control and switching

- Monitoring operation including independent alarms and trips.
- Remote sta1tlstopping of DG sets (Auto, Manual and Semi-Automatic Modes)

The Power Management System will be designed to control and monitor Generators units on board through the Power Management Modules. The system manages the plant in split or non split bus bars operation, prevention of black outs and optimising generator load by disconnecting / connecting non - essential consumers (preferential tripping) and starting/stopping main generators. The system will automatically reconfigure main generator/consumer configuration after a blackout. The system will be capable of carrying out Automatic Start and Stop, Auto Synchronization with bus bars, Load Management, Symmetrical Load sharing and Main Generator protection (under Frequency, over frequency, under voltage, over voltage, reverse power, overload current). The system will also be capable of alarm and monitoring of important parameters through the console in MCR / Switch Board compartment.

4.5 GENERATOR SETS

The diesel generator sets shall be started and stopped phasing in on the switchboard and connecting up to essential loads through PMS.

The diesel generator set shall automatically shut down in accordance with the manufacturer's design criteria.

A shut-down condition shall be identified by an alarm connected to the IACMS, with a pre-alarm to the PMS. The diesel generator set shall be fitted with its own electronic governor, with the speed setting remotely carried out either manually by the governor control switch on the ECR MSB or automatically from the PMS.

The emergency diesel generator set are not controlled by the PMS. Interface, if any, only for alarm and indication purposes.

4.6 NETWORK PROTECTION

Generator protection breakers will be Air Circuit Breakers withdrawable type. The generator panels in switchboard are equipped with the overload and reverse power relays.

ANNEXURE-1

Definition of engine concept shall include
Constant speed or variable speed drive to be defined. In case of variable speed, the SBN limit curve is valid for all combinations of engine speed and power.
The vendor shall ensure that the equipment is free of resonance at any relevant engine speed, including idle speed. A calculation report shall be provided for natural frequencies of the resiliently mounted equipment.
Concept for mounting to be defined (single elastic or double elastic). The SBN limit curve is valid above the mounting stage with connection to the ship foundation.
Measurements shall be conducted by a competent party. The vendor shall provide measurement reports including results for all noise measurements. Any deviations from proposed procedures to be discussed before FAT

Requirements for noise and vibration
Structure-borne noise shall not exceed the limit curve as shown in Figure 1. The equipment shall be free of excessive vibration as defined in ISO 20286, DNV Vibration Class or comparable guidelines. The overall A-weighted free field sound pressure source level shall be no higher than 106 dB(A).

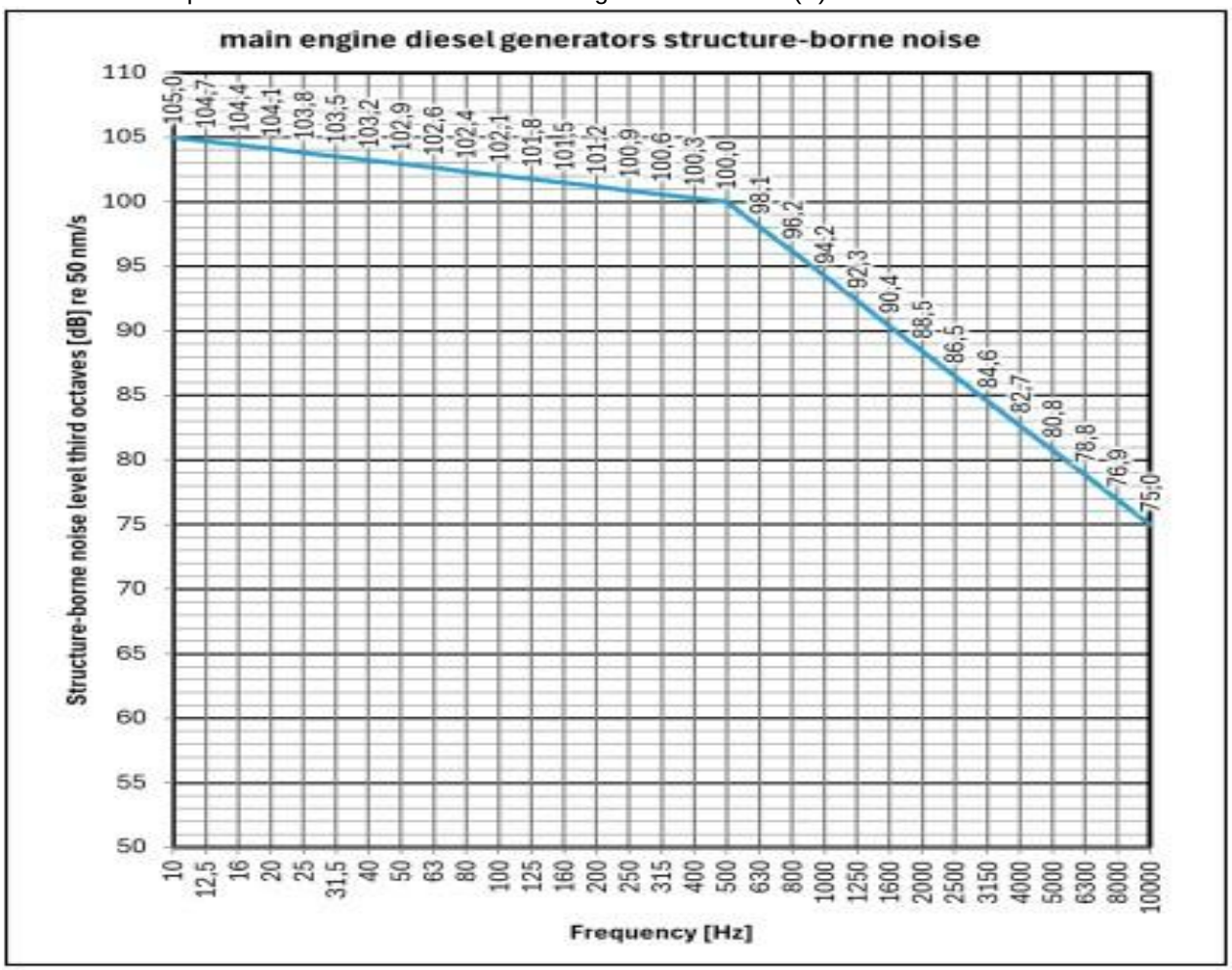


Figure 1: SBN limit curve for diesel generators, energetic mean above resilient mounts, valid for each direction separately

Integration
The diesel generators shall be mounted on elastic mounts made of natural rubber with a hardness of no more than 60 Shore(A). The calculated vertical rigid body natural frequency including consideration of dynamic stiffness of the mounts shall not be higher than 5 Hz. The horizontal stiffness of the mounts shall not be higher than the vertical stiffness. The shipyard will ensure that the manufacturer presents a dynamic stiffness measurement up to at least 500 Hz according to ISO 10846 or else guarantee dynamic stiffness of less than factor 2 at 20 Hz.
SBN flanking path transmission shall be reduced by flexible joints to all attachments to shipboard connection, like bellows for water piping, flexible hoses for compressed air and a steel bellows exhaust gas connections. All connections must allow sufficient motion of the diesel generator relative to its connection due to e.g. ship motion.
Cables of the generator shall be arranged in individual bundles of typical four singe cables with a bend of at least 45° between generator and the first ship side fixation.
The exhaust gas ducting including all integrated parts like filters, silencers etc. are to be resiliently mounted, resilient mounts to be designed with vertical static deflection of minimum 2 mm. A calculation report shall be presented to

demonstrate static deflections of resilient mounts du to gravity loading. Steel rope type mounts shall not be used. All parts of exhaust ducting shall provide sufficient attenuation against transmission of exhaust noise from inside to outside so that 85 dB(A) in 1 m distance of the surface are not exceeded. This is especially relevant for rectangular structures such as filters or catalysts.

Test Conditions
At least one diesel generator has to be mounted on its original resilient foundation in FAT. The test bed foundation shall be such that the SBN level difference across the mounts is at least 20dB at all frequencies to ensure that the source level is not affected by the foundation.

ABN shall be measured according to relevant standards such as ISO 6798 or ISO3746:2010 for free field average sound pressure level and sound power level.

SBN shall be measured additionally on the foundation below the elastic mounts for at least two selected mounts to check that the requirement of minimum 20 dB difference between above and below the mount is fulfilled.
The energetic average of SBN levels above mounts for each direction has to meet the requirement.
ABN measurement conditions must allow determination of the free field level. Besides overall dB(A) levels also measurements in one-third octave bands shall be performed.

Exhaust gas noise shall be measured in one-third octave bands.

The energetic average is defined as

$$L_v = 10 \cdot \log\left(\frac{\sum_i^n \frac{V_i^2}{V_0^2}}{n}\right)$$

With Lv the energetic average of SBN,
Vi the velocity at measuring position, I,Vo the reference velocity and n the number of measuring locations.
ABN measurement conditions must allow determination of the free field level. Besides overall dB(A) levels also measurements in one-third octave bands shall be performed.

Measurement shall be made at 100, 70, 50, 30% of maximum power and in idle.
If the vendor performance FAT according to another acknowledge standard this will be reviewed.

The other generator sets can be measured the same way as the diesel engines have to undergo routine procedures for factory testing anyway.
SBN and ABN background noise with engine switched off shall be measured immediately before the start of the test procedure. Results of background noise measurements shall be documented in the test report.
During HAT, Diesel generators will be tested for their effect on onboard noise. An indication for radiated noise can be the measured level at the foundation. Moreover , indicative radiated noise can be measured in harbor at small distance under favourable conditions taking into consideration the propagation conditions.
The test report shall contain at least the following information
Date and place of test, person inncharge
Details of installation (type of mounts, picture of assembly)
Specification of measurement equipment and measurement procedure
Operating conditions of engine
Sketch or phot of measurement locations
Results ABN for each operating condition
Overall sound pressure levels in dB(A) of engine surface noise
Overall sound power levels in dB(A) of engine surface noise
Overall sound power levels in dB(A) of exhaust noise Display of results in 1/3 octave bandwidth

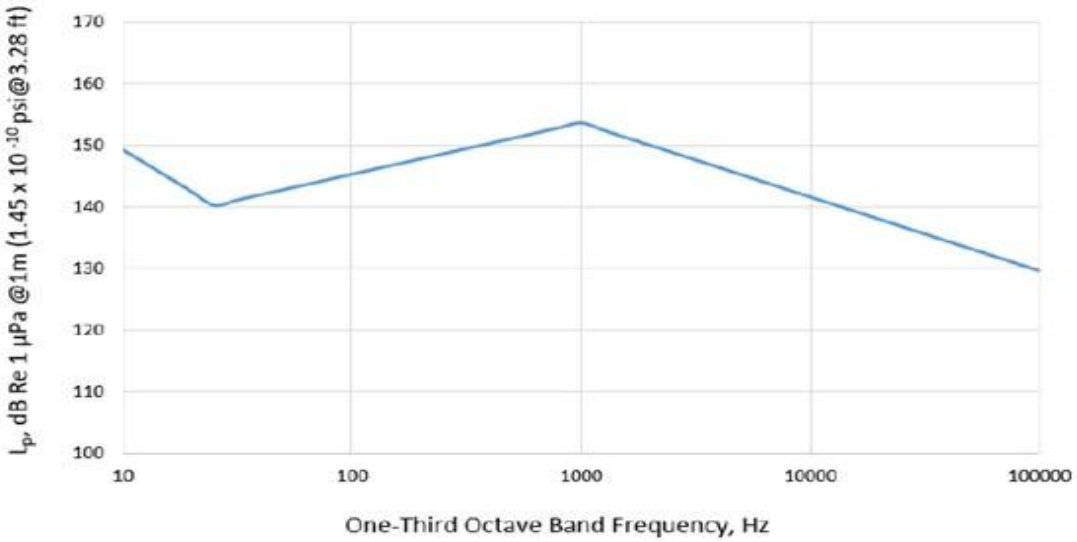
Results SBN for each operating condition: Energetic average of SBN above mounts, displayed separately for axial, lateral and vertical direction
1/3 octave SBN (velocity) level
Comparison of SBN velocity level in 1/3 octave bandwidth, above and below the mounts, 100% power, displayed separately per mount and direction.

ANNEXURE-2

The ABS notation equivalent to DNV for the project.

+A1, (E), SPS, +AMS, +ACCU, +DPS-2, UWN(AT), UWN(R), Enviro, HAB(WB), VIB-M, NLBES, CR with Vessel Description " Acoustic Research Vessel"

Allowable UWN Limits for Research Vessels *(1 May 2025)*



UWN Limits for Research Vessels *(1 May 2025)*

Frequency Range	*Criteria, Lp, in dB re 1 µPa @1 m (1.45 × 10^{-10} psi @ 3.28 ft)*
10 - 25 Hz	178.38 – 32.7 log f + 10 log(Δf), f in Hz
25 – 1k Hz	135 – 1.66 log f + 10 log(Δf), f in Hz
1 k – 100 k Hz	130 – 22 log f + 10 log(Δf), f in kHz

where Δf is the bandwidth of the measured data, approximately $0.23f$, (f in Hz).

ANNEXURE-3

The tabulated details are to be filled by the OEM.

HARBOUR GENERATOR DETAILS	
Power	
Model	
Main Dimensions (mm) L x B x H	
Cylinder Dia (mm)	
Stroke (mm)	
No of cylinder	
Fuel consumption(gm/kW-hr.)	
Lube oil consumption (gm/kW-hr.)	
Recommended lubricating oil	
TBO (hrs)	
Maintenance Routine	
Dry weight	
ALTERNATOR DETAILS	
Model	
Dry Weight	

CHAPTER 5 - COMPLIANCE MATRIX

OFFER REF. No. DATE:

SOTR Cl. No.	Bidder's Compliance	Reason for Deviation If any	SOTR Cl. No.	Bidder's Compliance	Reason for deviation any if
1			3.9		
1.1			3.10		
1.2			3.11		
1.3			3.12		
1.4			3.13		
1.5			3.14		
2			3.15		
2.1			3.15.1		
2.2			3.15.2		
2.3			3.16		
2.4			3.17		
2.5			3.17.1		
2.5.1			3.17.2		
2.5.2			3.17.3		
2.5.3			3.17.4		
2.5.4			3.17.5		
2.5.5			3.17.6		
2.5.6			3.17.7		
2.5.7			3.17.8		
2.5.8			3.17.9		
2.6			3.17.10		
2.7			3.17.11		
2.8			3.17.12		
2.9			3.17.13		
2.10			3.17.14		
2.11			3.18		
2.12			3.19		
2.13			3.20		
2.14			3.21		
2.15			3.22		
2.16			3.23		
2.17			3.24		
2.18			3.24.1		
3.1			3.24.2		
3.2			3.24.3		
3.3			3.24.4		
3.4			3.24.5		
3.5			3.25		
3.6			3.26		
3.7			3.27		
3.8			3.28		
3.29			4.4		

3.30			4.5		
3.31			4.6		
4.1			Annexure-I		
4.2			Annexure-II		
4.3			Annexure-III		

COMPANY SEAL

SIGNATURE WITH DATE.....

NAME.....

DESIGNATION.....

COMPANY NAME, ADDRESS

Enclosure-2

TERMS AND CONDITIONS OF CONTRACT / PURCHASE ORDER
(These Terms and Conditions are applicable to this particular Tender)

1. **Validity of Offer:**

(a) The offer shall be valid for 180 days from final tender closing date for acceptance.

(b) The prices shall remain firm and fixed until delivery of the full quantity of the goods in the Purchaser's Yard till full execution of order. If not, the Sub-contractor / Supplier / Vendor shall indicate the period during which the quoted price shall remain valid for supply of the equipment / article contracted for.

(c) Purchaser reserves the right to consider placement of Purchase Order in part or in full against the tendered quantity.

2. **Scope of Supply**: As per mutually agreed TNC MOM signed between GRSE's technical team and bidder.

3. **Terms of Price/Delivery Terms:**

(a) The contract (PO) price is firm and fixed till full execution of order.

(b) The Price is inclusive of all charges for proper packing, forwarding and preservation.

(c) Terms of Price/Delivery Terms:

(i) For Foreign Bidders: **FOB New York Port OR DAP GRSE-DEP, Ranchi**. The seller has to clear the items for export till onboard of vessel.

(ii) For Indigenous Bidders: DAP GRSE-DEP, Ranchi. Consignee address may change at the time of delivery. No price escalation and delivery extension is allowed on account of change of Consignee. Bidder is requested to refer the Consignee clause of this "Special Commercial Terms and Conditions".

(d) **No price escalation is allowed** at any stage. Quoted price must be inclusive of all charges like 'incidental charge'.

(e) Port of Discharge: Kolkata (applicable for foreign bidder). However, Port of Discharge may change at the time of delivery. It is the obligation of seller to obtain confirmation from GRSE in regard to Port of Discharge prior to shipment of goods. No price escalation shall be entertained to Supplier in case Port of Discharge is changed from Kolkata to other Indian Port.

(f) The Incoterms® 2020 rules is applicable for this tender.

(g) The whole cost of complying with all provisions of this tender is included in the item provided in the priced "Price Bid or Item Rate BOQ". All cost required for completing the scope of work as per NIT is deemed to be distributed reasonably amongst the rate and price entered for related items in the price bid.

(h) Whenever, marine cargo insurance is responsibility of GRSE, the Shipper/Seller must send scan copy of correct Invoice, Bill of Lading or Airway Bill, Packing List and Certificate of Origin by email (ID: "saha.rajen@grse.co.in" and "Datta.Kaustabh@grse.co.in" and "Adhikary.ArunavaDas@grse.co.in") within 02 calender days of shipment date to enable GRSE to arrange Marine Insurance.

(i) Shipping documents such as bill of lading, packing list and others for returnable items shall be separately prepared and submitted to enable return after the completion.

4. **Payment Terms:**

4.1. **Payment Terms for Foreign Vendor**:

4.1.1. **For Supply of Material/Goods:**

(a) 90% payment less Liquidated Damages (if any) will be made by irrevocable Non-Transferable Letter of Credit at sight (LOC), as per GRSE's format, will be established in favor of firm on receipt of their proforma invoice towards equipment, spares, documentation, etc. The Seller is required to submit Proforma Invoice duly signed and stamped by Competent Authority of seller and other relevant information to GRSE at-least **12 weeks** before dispatch for the respective ship set order. GRSE require minimum **8 weeks**' time for establishment of Letter of Credit. Any delay in receipt (by GRSE) of pro-forma invoice, Advising Bank details, BG (if applicable) and order acceptance shall result in delay in issuing Letter of Credit for which no claim of extension in delivery schedule without recourse to Liquidated Damage shall be permitted. The LC shall be established after deducting LD amount if applicable.

(b) GRSE require minimum 03 months-time for processing Delivery Date Extension after receipt of delivery date extension request from seller with all documentary evidence and justification. Therefore, seller is required to apply to GRSE for delivery date extension with all documentary evidence and justification **at-least 03 months prior** to expiry of contractual delivery date. Delivery Date Extension without imposition of LD shall be processed by GRSE based on merit and if reasons for delay is attributable to GRSE and without prejudice to any other terms of contract.

(c) Payment through LOC will be made against following dispatch documents and submission of Performance Bank Guarantee (in GRSE format). Supplier is required to submit PBG prior to shipment of goods. GRSE shall issue Certificate after receipt of original PBG from Supplier.

(i) Invoice
(ii) Signed package wise packing list. The seller must submit BOX wise, Pallet wise, Cartoon wise and Container wise packing list.
(iii) Transport document: Clean Bill of Lading or Airway Bill
(iv) Certificate from reputed chamber of commerce showing goods to be of ----------(name of country)----- origin in triplicate.
(v) Guarantee / warranty certificate
(vi) Manufacturer's work test certificate / shop test certificate
(vii) GRSE's certificate as to receipt and acceptance of performance bank guarantee.
(viii) GRSE's certificate as to receipt and acceptance of SDBG/CPBG.
(ix) Certificate of IRS/LRS/ABS etc. (on their letter head) as applicable.
(x) Material Safety Datasheet for Hazardous/Dangerous Cargo.
(xi) Preservation Certificate
(xii) Certificate of Conformity (CoC)

(d) Balance 10% payment will be made by TT against firm invoice supported with clean receipt inspection report to be issued by GRSE's RIC after receipt and acceptance of all material (ICGRN) and receipt of PBG/ Performance Security.

(e) Payment in foreign currency shall not be made for supply of material to Purchaser ***from India*** (indigenous supply) and work done by service technicians of India as per Reserve Bank of India rules. For Material supply from within India and for work done by service technicians of India (belong to Indian contractor), orders shall be placed only in INR on Indian firms. Payment in foreign currency shall be made for supply of material, which are purely imported in the name of Purchaser and for work done by Service technicians.

4.2. **Undertaking for Foreign Currency Payment**: The seller will have to undertake that they will not claim payment in foreign currency for the goods/items supplied by them locally i.e. from India. If the Seller submits invoice in foreign currency for any items, which are to be supplied by seller from India, all consequential damages to Buyer in this regard shall be borne by Seller.

4.3. **Payment Terms for Indigenous/Indian Vendor/entity:**

4.3.1. **For Supply of Material (including OBS)**

(a) 90% of order value will be paid through ECS/NEFT within 30 days against ink signed GST invoice, e-invoice, copy of GRSE's gate stamped invoice / challan / LR evidencing receipt of items, Receipt & acceptance (by GRSE) of material i.e ICGRN (Inspection cum Goods Receipt Note). Refer clause 18 regarding ICGRN. The shipping documents and invoices are to be uploaded by vendor in OBPS portal (obps.grse.in). Detail procedures/manual for processing payment in OBPS portal is herewith attached.

(b) **Balance 10% payment** shall be released on submission of **Performance Bank Guarantee (PBG) subject to clean ICGRN Report**. In case, Supplier does not agree to submit PBG, 5% amount shall be retained till expiry warranty period plus one month. Balance 5% amount shall be remitted to vendor.

(c) GRSE require minimum 03 months-time for processing Delivery Date Extension after receipt of delivery date extension request from seller with all documentary evidence and justification. Therefore, seller is required to apply to GRSE for delivery date extension with all documentary evidence and justification **at-least 03months prior** to expiry of contractual delivery date. **In case, seller fails to submit delivery date extension request with all documentary evidence and justification 03 months prior to expiry of CDD, application for DP extension without LD shall not be admitted thereafter**. Delivery Date Extension without imposition of LD shall be processed by GRSE based on merit and if reasons for delay is attributable to GRSE and without prejudice to any other terms of contract.

Notes: All bank Charges will be borne by supplier and payment will be made through ECS.

4.3.2. **For rendering Services.** 100% payment (plus taxes) will be made through ECS within 30 days from date of receipt of invoice along with Work Done Certificate (WDC) duly signed by GRSE authorized representative/PL of ship.

5. **Contractual Delivery Date (CDD):**

(a) Items are to be delivered strictly as per delivery date mentioned in BOQ sheet.

(b) Whenever supply of equipment, spares are made in lots/consignments, the number lots/consignments and delivery schedule are to be mentioned in Part-I bids. Material supplied to GRSE in same day on same LR/ Bill of Lading/ AWB against a given purchase order shall be treated as one lot/consignment.

(c) **Delivery Instruction**:

(i) One copy of all relevant documents like Invoice, Packing List, Warranty Certificate, Manufacturer's certificate (MTC), LRS certificate (if applicable), Third Party Inspection Certificate (if applicable), Certificate of origin etc. shall be put inside the packing box or container. Scan copy of these documents must be forwarded to email ID" of concerned dealing officer within 02 calendar days of date of shipment.

(ii) Wherever Supplier is responsible for delivery of material at GRSE's premise, all materials are to be delivered at GRSE must be supplied between 9.00 AM to 12.00 Noon and 1.00 PM to 04.00 PM only on full working days and between 09.00 AM to 11.00 AM on half working days. Late supply will not generally be accepted.

(iii) In case of any part shipment, if not specifically mentioned in purchase order the same can be done only on receipt of specific confirmation from buyer.

(iv) For transport by sea, Materials shall be shipped under deck only.

(v) The supplied equipment must conform to technical specification/drawing/documents duly approved by Purchaser and Purchaser's Customer. No deviation & non conformity will be accepted unless such deviation & modification has the prior approval of Purchaser and Purchaser's Customer. Any loss/damage on account of such deviation & non conformity shall be Seller's account.

(d) The time and date of delivery/completion of the GOODS/SERVICES as stipulated in the NIT/Contract shall be deemed to be the essence of the Contract.

(e) **Dispatches at the last moment or after the expiry of the delivery:**

(i) If the contractor locally supplies a consignment after the expiry of the contracted delivery date, the Consignee may either refuse to receive it or receive it without prejudice to the rights of the Procuring Entity under the terms and conditions of the contract. Such consignments shall lie at the risk and responsibility of the contractor. Such a receipt by the consignee shall not acquiesce or condone the late delivery and shall not intend or amount to an extension of the delivery period or keeping the contract alive. The Contractor must obtain an extension of the delivery date/period from the Procuring Entity.

(ii) As regards supplies coming from outside, if the contractor dispatches the Goods after the expiry of the delivery period, it shall be at his own risk and responsibility, and that the consignee is not liable for any demurrage, wharfage, and deterioration of Goods at the destination station and, in his interest, the contractor shall get an extension of the delivery period from the contracting Entities.

(iii) In the case of imports, the contractor must not dispatch the consignment after the expiry of the delivery period without taking a prior extension of the delivery period. Otherwise, payment against the LC shall be denied. If dispatched, it shall be at the risk and responsibility of the contractor and procuring entity shall not take any responsibility for such consignments.

(f) **Extension of Delivery Period**:

(i) If at any time during the currency of the contract, the contractor encounters conditions hindering timely delivery of the Goods and performance of incidental Works/ Services, he shall promptly inform the Procuring Entity in writing about the same and its likely duration. He must make a request to the Procuring Entity for an extension of the delivery schedule. On receiving the contractor's communication, the Procuring Entity shall examine the situation and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages and with and without denial clause by issuing an amendment to the contract/Purchase order.

(ii) Conditions for Extension of Delivery Period: When the period of delivery is extended due to unexcused delay by the contractor, the amendment extending the delivery period shall, inter alia, be subject to the following conditions:-

(aa) Liquidated Damages: The Procuring Entity shall recover from the contractor, under the provisions of this clause, liquidated damages on the Goods and incidental Works/ Services, which the contractor has failed to deliver within the delivery period stipulated in the contract.

(ab) **Denial Clause**:

(aba) No increases in price on account of any statutory increase in or fresh Imposition of GST, customs duty or on account of any other taxes/ duty/ cess/ levy), leviable in respect of the Goods and incidental Works/ Services stipulated in the said contract which takes place after the original delivery date, shall be admissible on such of the said Goods, as are delivered after the said date; and

(abb) Notwithstanding any stipulation in the contract for an increase in price on any other ground, including price variation clause or foreign exchange rate variation, or any other variation clause, no such increase after the original delivery date shall be admissible on such goods delivered after the said date.

(abc) Nevertheless, the Procuring Entity shall be entitled to the benefit of any decrease in price on account of reduction in or remission of GST, customs duty or on account of any other Tax or duty or any other ground as stipulated in the price variation clause or foreign exchange rate variation or any other variation clause which takes place after the expiry of the original delivery date.

(iii) If there is difference in opinion or dispute between Buyer and Seller regarding applicability of Liquidated Damages during execution of PO, LD amount shall be withheld and payment shall be made withholding the LD amount. The difference in opinion/dispute shall be mutually discussed and settled between buyer and seller after completion of delivery of goods and services. The seller shall not

suspend the work during tenure of contract just because of difference in opinion/dispute on applicability of LD and withhold of LD by buyer.

6. **Liquidated Damages:**

(a) In the event that, Sub-contractor / Supplier / Vendor (Seller) fails to deliver the equipment / product or documentation meeting the requirement of the Purchase Order on or before dates specified, the buyer (Purchaser) will suffer damages in an amount that is not susceptible to calculation with reasonable certainty. Therefore, any Liquidated Damages set forth in this Purchase Order represent a reasonable determination of the amount of damages that the Purchaser will suffer, and are not penalties. Seller hereby waives any defence to Purchaser's recovery of such Liquidated Damages on the plea that actual damages are ascertainable or that such Liquidated Damages do not represent a reasonable determination of damages suffered by Purchaser or are penalties.

(b) Sub-contractor / Supplier / Vendor will be liable to pay Liquidated Damages for late delivery of product / documentation as stated in the Purchase Order. Unless otherwise expressly specified, the rate of Liquidated Damages for late delivery of product shall be at the rate of 0.5% of the total price of undelivered product per week (or part thereof) of delay up to a maximum of 10% of the value of undelivered product. Such Liquidated Damages shall be deducted by the Purchaser from any monies due to Sub-contractor / Supplier / Vendor. Payments made by the Sub-contractor / Supplier / Vendor of Liquidated Damages shall be in addition to any other remedies (other than any other remedy for the recovery of damages) available to the Purchaser, including without limitation the remedy of cancellation of Order for default. Delivery Date will be considered as per date of Bill of Lading/AWB/Date of receipt of Cargo by GRSE Freight Forwarder in case of Incoterms FOB/FCA/CFR/CIF for direct imported consignment.

(c) LD for Late submission of Binding Data, Drawing, Documents and QAP: Liquidated Damages @ ½% Value of Goods for per week or part thereof delay in submission of Binding Drawing, Data and QAP beyond schedule date of submission mentioned in SOTR, maximum 5% of Value of Binding Data, Drawing, Documents and QAP shall be imposed.

(d) LD on submission of B&D in ILMS Format: Liquidated Damages @ ½% of Goods value for per week or part thereof delay in submission of B&D List (in ILMS Format) beyond schedule date of submission mentioned in SOTR, maximum 2% of the value of Goods shall be imposed.

(e) The cumulative LD shall not exceed 10% of Total order value.

(f) The LD would be deducted from the invoice of Supplier/Seller at the time of release of the payment. GRSE also reserves right to recover LD by invoking/ encashing any Security/BG or by adjusting or set-off against any sum payable to the Contractor/Seller under this or any other Contract with the Company.

(g) In the case of a consortium, the LD would be deducted from the invoice of lead partner/consortium partner at the time of release of the payment.

(h) Supplier/Seller agrees with the Buyer, that the above Liquidated Damages represents a genuine pre estimate of the damages which the Buyer will suffer on account of delay in the performance of the Contract by Seller and the said amount will be payable by Seller on demand without there being any proof of the actual loss/or damage caused by such breach/delay. The Seller further agrees that Buyer's right to impose LD on account of delay in the performance of the Contract by Seller is without prejudice to any other rights (like Risk Purchase etc.) of Buyer under this Contract.

(i) Sub-contractor / Supplier / Vendor will be liable to pay Liquidated Damages for late delivery of Manuals, Drawings and Documentation as agreed to by Purchaser and Sub-contractor / Supplier / Vendor and as stated in the Purchase Order

(j) If the equipment / article or any portion thereof be not delivered by the scheduled delivery date, the Purchaser shall be at liberty, without prejudice to the right of the Purchaser to recover Liquidated Damages as provided for in these conditions or to any other remedy for breach of contract, to terminate the contract either wholly or to the extent of such default. Amounts advanced or part thereof corresponding to the undelivered supply shall be recoverable from the Sub-contractor / Supplier / Vendor at the prevailing bank rate of interest.

(k) Any failure or delay by any sub-contractor, though their employment may have been sanctioned , shall not be admitted as a ground for any extension of time or for exempting the contractor from liability for any such loss or damage as aforesaid.

7. **Security Deposit (SD)[Interest free]:**

(a) Security Deposit (interest free) for 5% of material value (in GRSE format enclosed) is to be submitted within thirty (30) days from the date of placement of Purchase Order in the form of Crossed Demand Draft (in favour of Garden Reach Shipbuilders & Engineers Limited., Kolkata, payable at Kolkata) or Bank Guarantee in approved GRSE format. Security Deposit /SDBG will remain valid till the time all goods are received and accepted by GRSE plus 6 (Six) month.

(b) SD will be demanded from Supplier/Contractors who are given free issue material for fabrication job, as also sub- contractors who work without free issue materials.

(c) SD will be deposited a fresh by the successful bidder as per terms & conditions mentioned in P.O. and thereafter the EMD amount/EMD BG refunded.

(d) Failure to deposit SD amount/ submission of BG within stipulated time will invite penal interest from the date from which the amount was required to be deposited or BG to be submitted. The rate of interest would be at the rate of 2% per annum above LIBOR (London Inter Bank Offer Rate) (for foreign vendors) and base rate of SBI/MCLR declared by RBI (Median value applicable for public sector Banks) plus 2% (for Indian Vendors) or 6% whichever is higher. The date of reckoning such interest rate shall be date on which Supplier is required to submit BG as per above term 11(a). GRSE shall also have the right to recover the amount from outstanding dues to the Contractor against any other Purchase Orders placed by GRSE.

(e) In the event of failure to execute the order satisfactorily or default by the Sub-contractor / Supplier / Vendor, the Security Deposit will be forfeited.

8. **Performance Security (in the Form of Bank Guarantee):**

(a) Performance Security in the form of Performance Bank Guarantee (in GRSE format enclosed) for 5% of material value of supply items is to be submitted 30 days before dispatch of materials and the same shall remain valid till expiry of Warranty Period plus 6(Six) Month.

(b) GRSE reserves right to encash PBG in case Purchase order (PO) for Warranty extension or Re Preservation (as per provision of Tender/PO) is not accepted by supplier.

(c) In case GRSE desire to place PO for Warranty extension (as per provision of Tender), PBG is required to be extended by supplier till the extended warranty period plus one month claim period. In case PBG extension is not possible, fresh PBG (having same value as for original PBG) with validity period till extended warranty period plus one month claim period is required to be submitted by supplier.

(d) No interest shall be paid by Purchaser for PBG or Performance Security.

Note: Refer "General Rule of all Bank Guarantee".

9. **General Rule of All Bank Guarantee:**

(a) The Bank Guarantee shall be from scheduled Banks (promulgated by RBI) other than Co-operative Banks in approved GRSE format, which means the schedule Bank (promulgated by RBI) shall be guarantor / surety to GRSE.

(b) It is the distinct condition of the Bank Guarantee that no suit or action for the purpose of enforcing any claim in respect of the Bank Guarantee shall be instituted in any Court other than that situated in Kolkata City, West Bengal State, India and the parties agree to exclusively submit to such jurisdiction.

(c) BG is to be submitted in currency of order.

(d) In the event of postponement of completion period or extension of guarantee desired & sought by GRSE, the Bank guarantee has to be extended till the extended period desired by GRSE.

(e) The charges for extension of BG shall be payable by the Principal Contractor/Contractor/Seller in case delay in completion of supply/service/works/project is not attributable to GRSE. The BG shall be interest free.

(f) All Bank Guarantee shall be en-cashable in Kolkata.

(g) Bank Guarantee should be executed on the non-judicial stamp paper of Rs.50/- which should be obtained in the name of the executing Banker. In case a single stamp paper of Rs.50/- is not available, stamp paper of multiple denomination is acceptable provided serial no. of such stamp paper are consecutive and are purchased on the same date. Any alteration in the writing is required to be authenticated by the signatory executing the Bank Guarantee under official seal. B.G. must be submitted in banker's sealed envelope directly to our Finance Dept.

(h) Bank Guarantee should be executed strictly as per GRSE's Format.

(i) BG in PDF format is to be uploaded by vendor in OBPS portal (obps.grse.in). Detail procedures/manual for uploading documents in OBPS portal is herewith attached.

10. **Insurance Surety Bond (ISB)**

(a) Insurance surety bond is an alternate option to Demand Draft/BGs submission for Bid Bond (EMD), Contract Performance security & Goods Performance security, Advance Payment and BGs for issued goods. Formats for each type is enclosed in this document.

(b) Insurance surety bond (ISB) is to be drawn on non-judicial stamp paper in Rs 500 denomination subject to ratification by Legal Department,

(c) Insurance surety bond will be applicable for projects under execution in India only and payment for risk covered shall be made in Indian Rupees.

(d) Insurance surety bond must be issued by Indian Insurance Company (Insurer) as defined in section 2(7A) of the insurance act ,1938 and the insurer should also be registered under insurance Act,1938 to transact the business of general insurance.

(e) Insurance surety bond (ISB) will also be incorporated in contracts/purchase orders as an alternate option to Bank Guarantee for securing performance, payment and other contractual obligations.

(f) Value, duration, claim period, extension, invocation, release etc for Insurance surety bond (ISB) will hold good as applicable for BGs.

(g) Receipt of Insurance surety bond (ISB) in original by Ordering Authority directly from insurer, forwarding to Finance through checklist and recording and safe custody of ISB by Finance dept will be followed identical to that for BGs.

(h) Insurance Surety Bond shall remain valid till warranty period plus 6 (six) months.

11. **Guarantee / Warrantee:**

(a) The supplied materials are to be guaranteed / warranted for satisfactory performance for the period of **12 months** from the date of commissioning of the respective ship **36 months** from the actual date of final dispatch of equipment / items/materials whichever is earlier. During guarantee / warranty period if any item/ materials thereof supplied by the contractor, suffers due to defective material and or due to improper design and or due to defective drawing or due to faulty workmanship the vendor will assume full responsibility of rectification of such defective equipment or component thereof including direct expenses related to removal and re-positioning of the replacement/repaired equipment or component thereof and subsequent test & trial, incurred thereon without any financial implication to GRSE within 07 days(For Indigenous vendors), 21 days(for Foreign vendors) of notice of such defect. If any items are required to be removed from GRSE for defect repair, then supplier shall remove the same after submission of Bank Guarantee amounting equivalent to value of material to be removed and having validity of BG till the time of return of repaired/fresh material to GRSE and regiment to original equipment to GRSE. In case, materials are delivered in multiple consignments/lots, last date (actual) of delivery of consignment shall be reckoned for calculation of warranty date.

(b) If the defects intimated during the Guarantee period are not remedied within stipulated time, the Purchaser may proceed to rectify the defects at the Sub-contractor's / Supplier's / Vendor's risk and cost, but

without prejudice to any other rights which the Purchaser may have against the Sub-contractor / Supplier / Vendor in respect of the failure of the Sub-contractor / Supplier / Vendor to remedy such defects.

(c) In the event of Sub-contractor's / Supplier's / Vendor's failure to attend the Guarantee defects within stipulated period of time, the Performance Bank Guarantee will be encashed by the Purchaser. The Purchaser's decision shall be final and binding on Sub-contractor /Supplier / Vendor in this regard."

(d) For shelf-life items, the bidder is to mandatorily indicate the shelf life of each item to ascertain the Maximum possible warranty period.

(e) Issues/Defects related to Guarantee/Warranty shall have to be liquidated at the location of vessel and as desired by the Purchaser / Owner.

(f) The guarantee period of replaced parts /items shall however be reckoned from the date of replacement.

(g) **Removal of Defective Material (under Warranty).** In case defective material is required to be removed from GRSE's premise for repair/rectification/replacement to be carried out at Principal Contractor/Contractor/Supplier's Premise/Works. Following procedures are to be followed by Principal Contractor/Contractor.

(i) The Principal Contractor/Contractor shall collect the same from the Purchaser's Stores immediately from the date of intimation to the Principal Contractor/Contractor of such rejection. All incidental charges are to be borne by Principal Contractor/Contractor (inclusive of Customs Duty, if payable),

(ii) The Principal Contractor/Contractor is required to submit Bank Guarantee equivalent to value of defective material prior to removal of defective material from premise of GRSE.

(iii) The Supplier is required to submit details as per GRSE's Export Queries form and other relevant documents in supplier's letterhead within 05 days from date of intimation of defect to Supplier. Export Queries form and other documents required for exporting the defective goods shall be forwarded during intimation of defect to Supplier.

(iv) The Supplier is required to adhere all rules and regulations under Indian Law like Custom Law, GST Law etc. and prepare documentation for Re-Importation (from supplier's country to India after repair/replacement) as per Indian Law.

(h) The vendor/sub-contractor may, with the consent of Purchaser and after submission of Bank Guarantee for the equivalent cost of equipment or part of equipment, remove from Purchaser's premise/Ship any equipment or part of equipment that are defective if the nature of the defect, and/or any damage to the Ship caused by the defect, is such that repairs cannot be expeditiously carried out at the Purchaser's premise/Ship but become essential in the mean time for construction of Ship/use in Ship, the vendor/sub-contractor shall replace at site free of cost to the Purchaser, the defective parts, before the defective parts are removed from Purchaser's premise/Ship.

(i) If the repair, replacement or making good is of such a character that it may affect the efficiency of the Main equipment/Ship, the Purchaser may give to the vendor/sub-contractor a notice requiring that test of defective of Main equipment shall be made by the vendor/sub-contractor immediately upon completion of such remedial work, whereupon the vendor/sub-contractor shall carry out such test.

(j) If the vendor/sub-contractor fails to commence the work necessary to remedy defect or any damage to the Main equipment/Ship caused by such defect within a reasonable time which shall in no event be considered to be less than fifteen(15) days, the Purchaser may, following notice to the vendor/sub-contractor, proceed to do such work, and the reasonable cost incurred by the Purchaser in connection therewith shall be paid to the Purchaser by the vendor/sub-contractor or may be deducted by the Purchaser from any money due to the vendor/sub-contractor or claimed under the Performance Bank Guarantee.

(k) If the Main Equipment or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Guarantee / Warranty period of the Main equipment or such part, as the case may be, shall

be extended without any additional financial burden on Buyer by a period equal to the period during which the Main Equipment or such part cannot be used by the Purchaser because of any of the aforesaid reasons.

(l) **Warranty / Guarantee extension**: Bidder to quote warranty / guarantee extension charges of Main equipment & OBS -1 yr for a period of 02 years. If GRSE desires to extend the warranty / guarantee period after placement of order, the charges for warrantee / guarantee period extension quoted by the bidder shall be considered on pro-rata basis for the actual extension period. Irrespective of acceptance of the GRSE's warranty / guarantee clause by the bidders, the quoted warranty / guarantee extension charges applicable for a period of two years will be loaded for deciding the lowest bidder. In case a bidder does not quote warranty/ guarantee extension charges in their Part-II Price Bid, the said charges will be considered as 0% (Nil) while ranking of the bid. In such case bidder has to extend warranty / guarantee if required at no extra cost up to 2 years beyond contractual agreed period. **The placement of PO for warranty extension shall be at the discretion of GRSE (not obligation) and separate order shall be placed if required by GRSE**.

(m) Supplier shall warrant that they will make available the blue prints of the drawings of the spares if and when required in connection with the main equipment.

(n) Buyer reserves the right to claim all consequential loss/damage sustained by Buyer because of Supplier's failure to rectify defective equipment or component thereof including direct and to re-position the replaced/repaired equipment or component thereof and to subsequent test & trial etc, within the timeframe stipulated under above para (a) of this clause.

(o) GRSE reserves right to reduce initial warranty period of equipment [stipulated at para (a) above] at any time after award of contract. In that case, equipment price shall be reduced proportionately at same rate in which warranty extension charge is quoted by Bidder [refer para (h) above]. Accordingly excess amount paid on account of equipment price shall be recovered from Bidder.

12. **Force Majeure Clause:**

(a) Standard Force Majeure Clause as per format approved by the Ministry of Law (GIVEN BELOW) and STACS will be applicable. The failure of the sub-contractors of the suppliers shall not be accepted as a Force Majeure Condition. Vendor is to submit relevant proof / document well in time to buyer to inform F.M. condition. Power failure will not be treated as a force majeure condition.

(b) Should any force majeure circumstances arise, each of the contracting party shall be excused for the non-fulfilment or for the delayed fulfilment of any of its contractual obligations, if the affected party within 15 days of its occurrence informs the other party in writing.

(c) Force majeure shall mean fires, floods, natural calamities or other acts such as war, turmoils, strikes (as not limited to be establishment of the seller), sabotage, explosions, quarantine restrictions beyond the control of either party.

(d) It is understood and agreed between the parties hereto that the rights and obligations of the parties shall be deemed to be in suspension during the continuance of the force majeure event as aforesaid and the said rights and obligations shall automatically revive upon the cessation of the intervening force majeure event. The period within which the rights and obligations of the parties shall be in suspension due to force majeure event shall not be considered as a delay with respect to the period of delivery and / or acceptance of delivery under the contract or otherwise to the detriment of either party.

(e) Notwithstanding the provisions of the immediately foregoing clauses it is further understood and agreed between the parties hereto that in the event of any force majeure persisting for an uninterrupted period exceeding 6 (six) months, either party hereto reserves the right to terminate this contract upon giving prior written notice of 30 (thirty) days to the other party of the intention to terminate without any liability other than reimbursement on the terms provided in this agreement for the goods received.

13. **Defaults, Breaches, Termination, Risk Purchase and Closure of Contract**

(a) In case the contractor undergoes insolvency or receivership; neglects or defaults, or expresses inability or disinclination to honour his obligations relating to the performance of the contract or ethical standards or any other obligation that substantively affects the Procuring Entity's rights and benefits under the contract, it shall be treated as a breach of Contract. Such defaults could include inter-alia:-

(i) **Default in Performance and Obligations:** if the contractor fails to deliver any or all of the Goods or fails to perform any other contractual obligations (including Code of Integrity or obligation to maintain eligibility and Qualifications based on which contract was awarded) within the period stipulated in the contract or within any extension thereof granted by the Procuring Entity.

(ii) **Insolvency:** If the contractor being an individual or if a firm, any partner thereof, shall at any time, be adjudged insolvent or shall have a receiving order or order for the administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or enter into any assignment or composition with his creditors or suspend payment or if the firm be dissolved under the Partnership Act, or

(iii) **Liquidation:** if the contractor is a company being wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the Debenture-holders is appointed, or circumstances shall have arisen which entitle the Court or Debenture-holders to appoint a Receiver, Liquidator or Manager

(b) **Notice for Default**: As soon as a breach of contract is noticed, a show-cause 'Notice of Default' shall be issued to the contractor, giving two weeks' notice, reserving the right to invoke contractual remedies. After such a show-cause notice, all payments to the contractor would be temporarily withheld to safeguard needed recoveries that may become due on invoking contractual remedies.

(c) **Terminations for Default**

(i) **Notice for Termination for Default:** In the event of unsatisfactory resolution of 'Notice of Default' within two weeks of its issue as per sub-clause above, the Procuring Entity, if so decided, shall by written Notice of Termination for Default sent to the contractor, terminate the contract in whole or in part, without compensation to the contractor.

(ii) Such termination shall not prejudice or affect the rights and remedies, including under sub-clause below, which have accrued and/ or shall accrue to the Procuring Entity after that.

(iii) Unless otherwise instructed by the Procuring Entity, the contractor shall continue to perform the contract to the extent not terminated.

(iv) All warranty obligations, if any, shall continue to survive despite the termination.

(d) **Contractual Remedies for Breaches/Defaults or Termination for Default**. If there is an unsatisfactory resolution within this period, the Procuring Entity shall take one; or more of the following contractual remedies:-

(i) Temporary withhold payments due to the contractor till recoveries due to invocation of other contractual remedies are complete.

(ii) Call back any loaned property or advances of payment, if any, with the levy of interest at the prevailing rate (MIBID - Mumbai Interbank Bid Rate).

(iii) Recover liquidated damages and invoke denial clause for delays.

(iv) Encash and/ or Forfeit performance or other contractual securities.

(v) Prefer claims against insurances, if any.

(vi) Terminate contract for default, fully or partially including its right for Risk-and-Cost Procurement as per following sub-clause.

(vii) **Risk and Cost Procurement:** In addition to termination for default, the Procuring Entity shall be entitled, and it shall be lawful on his part, to procure Goods similar to those terminated, with such terms and conditions and in such manner as it deems fit at the "Risk and Cost" of the contractor. Such 'Risk and Cost Procurement' must be contracted within six months from the breach of Contract. The Contractor shall be liable for any loss which the Procuring Entity may sustain on that account provided the procurement, or, if there is an agreement to procure, such agreement is made. The Contractor shall not be entitled to any gain on such procurement, and the manner and method of such procurement shall be in the entire discretion of the Procuring Entity. It shall not be necessary for the Procuring Entity to notify the contractor of such procurement. It shall, however, be at the discretion of the Procuring Entity to collect or not the security deposit from the firm/ firms on whom the contract is placed at the risk and cost of the defaulted firm.

Note: Regarding the Goods which are not readily available in the market and where procurement difficulties are experienced, the period for making risk procurement shall be nine months instead of six months provided above.

(viii) Initiate proceedings in a court of law for the transgression of the law, tort, and loss, not addressable by the above means.

14. **Frustration of Contract**

(a) **Notice of Frustration Event:** Upon a supervening cause occurring after the effective date of the contract, including a change in law, beyond the control of either party whether as a result of the Force Majeure clause or within the scope of section 56 of the Indian Contract Act, 1872, that makes it impossible to perform the contract within a reasonable timeframe, the affected party shall give a 'Notice of Frustration Event' to the other party giving justification. The parties shall use reasonable efforts to agree to amend the contract, as may be necessary to complete its performance. However, if the parties cannot reach a mutual agreement within 60 days of the initial notice, the Procuring Entity shall issue a 'Notice for Determining the contract' and terminate the contract due to its frustration as in the sub-clause above.

(b) However, the following shall not be considered as such a supervening cause:-

(i) Lack of commercial feasibility or viability or profitability or availability of funds
(ii) if caused by either party's breach of its obligations under this Contract or failure to act in good faith or use commercially reasonable due diligence to prevent such an event.

15. **Closure of Contract**

(a) No Claim Certificate and Release of Contract Securities. After mutual reconciliations of outstanding payments and assets on either side, the contractor shall submit a 'No-claim certificate' to the Procuring Entity requesting the release of its contractual securities, if any. The Procuring Entity shall release the contractual securities without any interest if no outstanding obligation, asset, or payments are due from the contractor. The contractor shall not be entitled to make any claim whatsoever against the Procuring Entity under or arising out of this Contract, nor shall the Procuring Entity entertain or consider any such claim, if made by the contractor, after he shall have signed a "No Claim" Certificate in favour of the Procuring Entity. The Contractor shall be debarred from disputing the correctness of the items covered by the "No Claim" Certificate (format as per Annexure XXVI) or demanding a clearance to arbitration in respect thereof.

(b) **Closure of Contract**. The contract shall stand closed upon:-

(i) Successful performance of all obligations by both parties, including completion of warrantee obligations and final payment.

(ii) Termination and settlements after that, if any, as per clauses above.

16. **Arbitration for Domestic Commercial Contracts**

(a) If at any time, before during or after the contract period, any unsettled claim, question, dispute or difference arises between the parties, upon or in relation to or in connection with or in any way touching or concerning this order, the same shall be settled/adjudicated through Arbitration to be conducted by a Sole Arbitrator, to be appointed by the parties on mutual consent, in accordance with the provisions of the Arbitration and Conciliation Act, 1996.

(b) In the event the parties fail to mutually appoint a Sole Arbitrator within 30 days from the receipt of a request by one party from the other, then either of the parties may approach the Hon'ble High Court at Calcutta under the provisions of the Arbitration and Conciliation Act, 1996 for appointment of a Sole Arbitrator by the Hon'ble Court.

(c) Such arbitration shall, in all respects, be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and the rules framed there under or any statutory modification or re-enactment thereof for the time being in force.

(d) The Award of the Sole Arbitrator shall be final, conclusive and binding upon the parties.

(e) In the event of the death or resignation or incapacity or whatsoever of the said Sole Arbitrator if appointed by the parties mutually the said parties may again appoint a suitable Substitute Arbitrator in place of the erstwhile Sole Arbitrator to continue with the proceedings. In the event of appointment of the Sole Arbitrator by the Hon'ble High Court at Calcutta on death or resignation or incapacity or whatsoever of the said Sole Arbitrator, either of the parties in this behalf, may make an application to the Hon'ble High Court at Calcutta for appointment of a Substitute Arbitrator and the Hon'ble Court may pass such orders as it deems fit and proper.

(f) Also in the event an Arbitration award is set aside by a competent court the parties may appoint a Sole Arbitrator mutually or on failing to appoint a Sole Arbitrator mutually within the statutory period then either of the parties may file an application before the Hon'ble High Court at Calcutta under the provisions of the Arbitration and Conciliation Act, 1996 for appointment of a Sole Arbitrator by the Hon'ble Court in accordance with the provisions of the Arbitration and Conciliation Act.

(g) The cost of the arbitration, fees of the arbitrator, remuneration of the stenographer and clerk, stamp paper etc. shall be shared equally by the parties, unless otherwise directed by the Sole Arbitrator. The venue of arbitration shall be at Kolkata and unless otherwise decided by the parties or by the Sole Arbitrator himself, the venue shall be the premises of Garden Reach Shipbuilders & Engineers Ltd. located at 43/46, Garden Reach Road, Kolkata 700 024.

(i) The language of the proceeding shall be in English.

17. **Arbitration for International Commercial Contracts**

(a) If at any time, before during or after the contract period, any unsettled claim, question, dispute or difference arises between the parties, upon or in relation to or in connection with or in any way touching or concerning this order, the same shall be settled/adjudicated through Arbitration to be conducted by a sole arbitrator under the laws of India

(b) The India International Arbitration Centre (IIAC), New Delhi on an application made by either of the parties and addressed to the Chairperson or the Registrar of IIAC , shall appoint a Sole Arbitrator under its applicable Rules. The procedure of the arbitration shall be governed by the applicable Rules of IIAC.

(c) Both parties agree and accept IIAC for all arbitral references and have satisfied themselves about the neutrality and eligibility of the IIAC.

(d) The Award of the Sole Arbitrator shall be final, conclusive and binding upon the parties.

(e) In the event of the death, incapacity, resignation or inability for any reason whatsoever of the Sole Arbitrator, the appointing Institution i.e, IIAC, shall, on an application from any of the parties, appoint another fit and competent person as Sole Arbitrator to adjudicate on the issues originally referred in accordance with law.

(f) The arbitrator shall be competent to grant interim orders and direct measures for interim protection to the parties.

(g) If the arbitration award is set aside by a competent Court and unless the disputed issues are decided or otherwise ordered by the said Court, the appointing institution i.e, IIAC shall, on an application from any of the parties, appoint a new person as Sole Arbitrator to adjudicate such disputes and differences in accordance with laws in force in India.

(h) The cost of the Arbitration including the Arbitrator's, remuneration, stenographer and clerk's charges, etc., unless decided otherwise by the Sole Arbitrator, shall be shared equally by the parties.

(i) The Administrative costs and expenses of IIAC, if any, shall be borne by the respective parties as per the IIAC Rules, unless otherwise directed by the Sole Arbitrator.

(j) The seat/venue of the Arbitration unless otherwise decided by the Sole Arbitrator shall be Kolkata, India.

(k) The language of the proceeding shall be in English.

18. **Governing Jurisdiction and Compliance with Laws:**

(a) All contracts shall be deemed to have been wholly made in Kolkata and all claims there under are payable in Kolkata City and it is the distinct condition of the order that no suit or action for the purpose of enforcing any claim in respect of the order shall be instituted in any Court other than that situated in Kolkata City, West Bengal State, India and the parties agree to exclusively submit to such jurisdiction.

(b) This Agreement in all respects shall be governed by and construed in accordance with the Indian Laws.

19. **Replacement for Rejection:**

(a) Should the articles, or any portion thereof be rejected, the contractor shall collect the same from the purchaser's yard within 15 days from the date of intimation of such rejection to the supplier/vendor/sub-contractor and replace/rectify the same within 30 days from date of intimation of such rejection. Before collection of rejected items the supplier/vendor/sub-contractor shall furnish Bank Guarantee/Bank Draft of equivalent amount or accept GRSE holding back payment of their qualifying bills of equivalent amount till deficiencies are made good. The purchaser reserve the right to dispose off the rejected items at the end of a total period of 30 days in a manner to the best advantage to the purchaser and recover storage charges and any consequential damages, from sale proceeds of such disposal. Rejection of materials and also the late delivery will affect further business with GRSE.

(b) The guarantee period of replaced parts /items shall however be reckoned from the date of replacement.

(c) If the defects are not remedied within stipulated time, the purchaser may proceed to rectify the defects at the supplier/vendor/sub-contractor's risk & cost but without prejudice to any other rights which the purchaser may have against the supplier/vendor/sub-contractor in respect of their failure to remedy such defects.

(d) In case any documents, which are required to be submitted along with supply of material by supplier as per contract, are not submitted by supplier within 15 days of delivery date, equipment/material may be rejected at receipt inspection in GRSE. In that case, GRSE reserves right to exercise Risk Purchase clause.

20. **Fall Clause**: The Bidder undertakes that it has not supplied/is not supplying similar products/ systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the Bidder to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance of elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the Bidder to the Principal/Buyer, if the contract has already been concluded.

21. **Taxes & Duties:**

21.1. **For Foreign Vendor:**

(a) All taxes, duties, levies etc. as applicable outside India will be borne by firm / vendor.

(b) All taxes, duties, levies etc. applicable in India will be borne by GRSE. However, withholding tax (applicable as per Indian Income Tax law) for provision of Technical Services (like technical assistance, training, license fees etc.) by foreign supplier shall be deducted from Service bill and payment shall be made after deducting the withholding tax amount.

(c) The bidder has to submit Tax Residency Certificate at the time of submission of service invoices.

21.1. **For Indigenous Vendors:**

Goods and Service Tax (GST):

(a) The item being purchased under this contract shall be used for construction of ships in GRSE under chapter heading 8906 of GST HSN codes. As per sl no. 252 of Notification no. 01/2017 CT/IT (Rate) and recent advance rulings, items falling under "Any chapter", which are parts of goods of heading 8901, 8902, 8904, 8905, 8906, 8907 are to be taxed at 5% rate. Hence Sellers must supply the goods under chapter heading 8906 and charge not more than 5% GST rate in their invoice. GRSE shall be liable to reimburse GST only upto 5% of basic value of goods. In case seller raise invoice at GST rate more than 5%, GRSE shall not be liable to pay additional GST over and above 5% of basic value of goods.

(b) In case of purchases of goods/ services from unregistered dealers under GST Laws, GST will be paid by GRSE under reverse charge mechanism. The amount of GST to be paid by GRSE shall be deducted from vendor's bill.

(c) Benefits from reduction in rate of tax / ITC is required to be passed on to consumer. Where "applicable GST" has been quoted as extra, Goods and service provides (except un-registered dealers under GST Law) have to submit declaration that they have complied with "Anti- profiteering clause' under GST Law. Such declaration be given in technical bid. The calculation of the benefit in the reduction of price should be provided by the vendor.

(d) If the vendor is registered under GST, vendor shall mention the HSN code for goods & / or services in their tax invoice, etc. These codes must be in accordance with GST Laws and responsibility of specifying correct HSN codes for goods and / or services is that of the vendor, GRSE shall not be responsible for any error in HSN code for goods and / or services specified by supplier/ contractor. Supplier / Contractor shall pay penalty and / or interest imposed on GRSE or any loss due to delay in availing ITC by GRSE or any loss of ITC to GRSE due to errors by vendors at any stage. GRSE reserves right to recover any such interest, penalty or loss from any amount due to Supplier / Contractor or otherwise.

(e) If the vendor is registered under GST, the GST registration number (15-digit GSTIN) issued by GOI shall be mandatorily provided by the vendor. Vendor having multiple business verticals within state / at multiple states with separate GST registration numbers shall forward GSTIN of only that vertical which is involved in supply of goods and / or services. Vendor shall mention the same while invoicing and avoid any data entry error on GST portal.

(f) If the vendor is registered under GST, vendor shall ensure timely submission of invoice as per the provisions / requirement / timeline promulgated by GOI in relation to GST Law with all required supporting documents to enable GRSE to avail input tax credit promptly. The vendor's invoice inter alia should contain GSTIN of vendor, GSTIN of GRSE, GST tax rate separately, HSN code wise goods or services, place of supply, signature of vendor etc. Original invoice needs to be submitted to Bill Receipt Centre at GRSE and a copy of the invoice should be given to the goods receiving section (GRSE).

(g) If the vendor is registered under GST, vendor shall file all applicable returns under GST Laws in the stipulated time & any losses of tax credit to GRSE arising due to delay in filing will be recovered from their invoice wherever GRSE is eligible to avail tax credit. Any default towards payment of tax and / or uploading of monthly returns by supplier / contractor, GRSE retains right to withhold payments towards tax portion until the same is corrected and complied by the supplier / contractor with the requirement of GST along with satisfactory evidence.

(h) The rate sheet enclosed with the tender will indicate the rates to be entered under each head wherever applicable. Bidders must clearly mention the applicable Taxes & Duties.

(i) The Supplier/Seller must submit original tax invoice or debit note to GRSE(buyer) prior to the expiry of one year from the date of issue of tax invoice relating to such supply in order to avail Input Tax Credit by GRSE(Section 18(2) of CGST Act). Notwithstanding, the Supplier/Seller must submit original tax invoice or debit note for supply of goods or services or both, before the filing of the Return under Sec 39 of CGST Act for the month of September following the financial year to which such invoice/ debit note pertains. - Section 16(4) of CGST Act. In case of default by supplier, GRSE reserves the right not to reimburse GST amount of Invoice to supplier.

(j) Break up of GST shall be indicated by the Seller while raising invoice / bill. While submitting the bill / invoice Seller shall undertake that the Goods and Services Tax (GST) charged on invoice/bill is not more than what is payable under the provision on the relevant Act or the Rules made there under and that the Goods on which GST are charged have not been exempted under the GST Act or the Rules made there under and the charges on account of GST on these goods are correct under the provision of that Act or the rules made there under.

(k) TDS @2 % or as applicable shall be deducted on the payment made or credited to the supplier where the total value of supply (supply of Goods or services) under a contract exceed Rs.2,50,000/- excluding GST. However, no deduction shall be made if the location of the supplier and the place of supply is in a state or Union Territory, which is different from the state, or as the case may be Union Territory of the registration of recipient.

22. **Bank Charges:**

(a) **For Foreign Vendor:**

(i) All normal Bank Charges in India will be borne by GRSE and Bank charges outside India will be borne by the supplier.

(ii) LC confirmation charge where required, will be borne by the supplier.

(iii) Bank Charges for extension of LC required due to Supplier's fault shall be borne by the supplier.

(iv) All Bank Charges (both Seller's Bank and Buyer's Bank) are to be borne by seller due to discrepancy of documents.

(b) **For Indigenous Vendors:** All applicable Bank Charges shall be borne by vendor.

23. **Billing and Dispatch Schedule of Supply Items:**

(a) The bidder shall submit tentative list of Imported Items and Indigenously manufactured (in India) items along with their percentage of total basic price of materials in their Part-I bid.

(b) The firm on receipt of Purchase order and by a not later within 02 weeks after completion of Design & Engineering or 03 month prior to schedule contractual delivery date, whichever is earlier, shall list out and confirm all deliverables including Main Eqpt. Accessories, Onboard Spares, Tools Technical Documentations and other items. Each item shall have the firm's part no. and break up prices. The same is required essentially for incorporating GRSE material code nos. into the Purchase order and computer systems. GRSE shall issue amendment to Purchase order incorporating the details received from the firm with GRSE code numbers, individual prices etc prior to contractual delivery date. While dispatching the firm shall identify each item with GRSE code no and the firm's part no. Packing list should indicate all deliverable items specially mentioning/mounted on main eqpt. or loose items. Each item should be identified with metallic or plastic tag indicating both GRSE code no. and firm's part no. In case of any deviation, GRSE shall not be in any way responsible for delay in issue of receipt inspection report and payment.

(c) **Consignee for Dispatch:**

Garden Reach Shipbuilders and Engineers Ltd.
Diesel Engine Plant
Plant Plaza Road
Dhurwa, Ranchi - 834004

Note: Consignee (including address of delivery) may change at the time of delivery of goods. It is the obligation of Seller to obtain confirmation from GRSE in regard to consignee address prior to shipment of goods. No price escalation/increase shall be entertained due to change in consignee address.

24. **Inspection, Tests and Certification:**

(a) Inspection at Seller's premise shall be as per SOTR (Enclosure-I) and agreed TNC MOM.

(b) Joint Receipt Inspection (JRI) at GRSE will be carried out within 30 days (maximum) of arrival of equipment at Buyer's premise by Buyer's representative, Buyer's Customer's representative (if applicable) and Supplier's representatives (reps). The Supplier is required to depute their reps at GRSE within 07 days from date of intimation by email for JRI. If supplier is not able to depute reps within 07 days, GRSE will carry out receipt inspection in absence of reps of OEM. The JRI Report / ICGRN (Inspection cum Goods Receipt Note) Report shall be forwarded to Seller within 30 days of date of JRI. Any discrepancies / shortfall found during receipt inspection are to be made good by supplier immediately free of cost. In case equipment manufacturer/ vendor's representatives desire to attend JRI, the bio data of the equipment manufacturer/ vendor's representative will be communicated fifteen (15) days prior to the dispatch of goods to the shipyard for

obtaining the necessary security clearance. The documents required to be submitted by seller is as per agreed TNC MOM.

(c) For Indian Vendors: The inspection and shipping/dispatch documents are to uploaded in OBPS portal (obps.grse.in). Detail procedures/manual for uploading documents in OBPS portal is herewith attached.

25. **Packing Instructions**: The materials are to be properly packed to protect against damage in the conditions of land, sea and air transportation, transshipment, storage and weather hazards during transportation, ingress of water & dust, pilferages during transits and to store for a period indicated in tender document. All packing/cases should be properly identified and tagged as per SOTR Clause. The seller must submit BOX wise, Pallet wise, Cartoon wise and Container wise packing list.

26. **Preservation:**

(a) Bidder shall ship the goods applying preservatives and proper.

(b) A detailed procedure for long- and short-term preservation of the equipment and periodicity of preservation along with special preservatives, if required, prior to installation of the equipment shall be furnished by the Sub-contractor / Supplier / Vendor. The detailed procedure for de-preservation prior to commissioning shall also be furnished. Should any material require any additional preservation till its final installation / fitment on board the Ship, the materials should be supplied in preserved (sealed or in cocoons) condition for long duration of time as per order. Detailed procedures for subsequent de-preservation / re-preservation are to be stated by Sub-contractor / Supplier / Vendor. The preserved sealed cases / cocoons will not be opened on receipt and same will be opened when the first preservation is due or if required on board earlier. The short fall, discrepancy or damage, if any, found during the inspection after opening these cases will have to be replaced / made good by the supplier free of cost within reasonable period."

27. **Technical assistance/Service Engineer**: Technical assistance is to be provided as per the scope mentioned in TSP/SOTR.

28. **License, Permits & Certificates:**

(a) The Contractor, if required for execution of Contract, shall obtain and maintain the necessary Export License from the competent authorities and shall pay at his cost any fee connected therewith. Failure to obtain and maintain Export Licenses shall not be considered as Force Majeure. The bidders shall take in to account the period required for obtaining such license while indicating delivery / completion periods for the items /equipment and delays in supplies for non-availability of such licenses are to be accounted for by the bidders.

(b) In case, the Contractor fails to obtain or maintain the licenses, or if the licenses are withdrawn, he shall restore them within two months from date of such cancellation/withdrawal, failing which the Buyer shall have the right to cancel the Contract and the Contractor shall forthwith return to the Buyer all the amounts paid by the Buyer to the Contractor.

(c) The 'End User' certificate if required by the supplier for obtaining the license is to be forwarded by Purchase. The seller must submit draft "End User Certificate" (EUC) in their template duly filled up all information within **02 weeks of award of contract**. Buyer need **02-month time** from date of receipt of draft copy for EUC from seller for issuing signed copy of EUC. Delay in submission of draft copy of EUC (duly filled up with all requisite information) shall be in the account of seller. No delivery date extension shall be entertained in case of delay in submission of draft copy of EUC (duly filled up with all requisite information) by Seller.

(d) SELLER shall procure, at his expense, all necessary permits, certificates and licenses required by virtue of all applicable laws, regulations, ordinances and other rules in effect at the place where any of the work is to be performed, and SELLER further agrees to hold PURCHASER and/or CONSULTANT harmless from liability or penalty which might be imposed by reason of any asserted or established violation of such laws, regulations, ordinances or other rules.

29. **Interest Clause**. No claim for interest shall be admissible to the Principal Contractor/Contractor at any stage and in respect of any money or balance or Bank Guarantee, which may be due to the Contractor from the Owner, owing to any dispute or otherwise.

30. **Part Supply / Part Payment**: PSPP 03 Lots

31. **Option Clause/Repeat Order:**

(a) The Buyer reserves the right, but without any obligation to do so, to place order for additional quantity upto 100% of originally contracted quantity of any line item (including spares/tools etc) within original period of contract (to successful bidder/bidders) at same rates and terms of contract subject to:-

(i) There being no downward trend in price (consent of supplier is not necessary) or if there is a downward trend, the supplier agreeing to reduce the price for the enhanced quantity duly matching with the fall in prices.

(b) The Option clause can be exercised (if necessary more than once) provided the cumulative of the Option clause quantities exercised does not exceed the option clause quantity provided in the contract.

(c) The Buyer shall also reserve the right, but without any obligation to do so, to decrease the ordered quantity up to a percentage specified therein (or 25% if not specified) at any time, till the final delivery date of the contract, by giving reasonable notice.

32. **Custom Fine, Penalty, Storage and Demurrage Charges**. Storage and Demurrage will be claimed from the Supplier for all shipments that reach GRSE without proper despatch documentations and not accompanied by packing lists, invoices etc. The Sub-contractor / Supplier / Vendor shall be responsible for fines due to errors or omissions in description, weight or measurements and for increased handling charges due to improper packing. Demurrage, if any, due to wrong/non-availability of shipping documents will borne by supplier/vendor."

33. **Severability**. If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

34. **Franking Clause**: The following Franking clause will form part of contract placed on successful Bidder/Bidders-

(a) Franking clause in case of Acceptance of Goods “The fact that the goods have been inspected after delivery period and passed by the Inspecting Officer will not have effect of keeping the contract alive. The goods are being passed without prejudice to the rights of the Buyer under the terms and conditions of the contract.”

(b) Franking clause in case of Rejection of Goods “The fact that the goods have been inspected after delivery period and rejected by the Inspecting Officer will not bind the Buyer in any manner. The goods are being rejected without prejudice to the rights of the Buyer under the terms and conditions of the contract.”

35. **Product Support**. Supplier of Equipment shall provide total product support to the Buyer and Buyer’s Customer (NPOL or any other Customer) in the form of repair maintenance and spare parts for operation at stipulated reliability standards for a period of at least 25 years from the effective date of the contract (excluding electronic equipment for which the period would be 10 years). The SELLER shall provide a notice of 02 years to the BUYER in case the equipment/system/spares supplied by them is unlikely to be manufactured or supported by them so as to enable a Life Time Buy of all spares before closure of the said production line.

36. **Insolvency**: If the Seller enters into liquidation, whether compulsory or voluntary (otherwise than or amalgamation or reconstruction with another party taking over all his rights as well as commitments) or becomes insolvent or Suffers a receiver of the whole or part of this asset to be appointed,

(a) Shall forthwith notify the same to Buyer and the Buyer shall have the right without prejudice to his other rights or remedies to terminate the unexecuted part of this Contract.

(b) In such an event, the Buyer shall become entitled forthwith to get the refund within 30 days of all the advance payments received by the Seller and expenditure incurred as a part of its obligations under this contract.

37. **Recovery Adjustment Provision**. During the currency of the contract, if any sum of money is payable by the Bidder/ Supplier/ Contractor, the same shall be deducted from any sum then due or thereafter may become due to the Bidder/Supplier/Contractor under the contract or any other contract with Buyer. Payment made under one order shall not be assigned or adjusted to any other order by Supplier, except to the extent agreed upon in writing by Buyer.

38. **Waiver**.

(a) Subject to Sub-Clause below, no relaxation, forbearance, delay or indulgence by either party (Buyer or Seller) in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

(b) Any waiver of a party's rights, powers or remedies under the Contract must be in writing, must be dated and signed by an authorised representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

39. **Assignment**. The Supplier / Vendor shall not either wholly or partly sell, transfer, assign or otherwise dispose of the rights, liabilities and obligations under the contract between him and the Purchaser without prior consent of the Purchaser in writing.

40. **Agent of Overseas Suppliers in India and Agency Commission**

(a) Overseas suppliers are to be the original manufacturers of the Store and shall not engage any individual on firm, whether Indian or foreign whatsoever, to intercede, facilitate or in any way to recommend to the Govt. of India or any of its functionaries, whether officially or unofficially, to the award of the contract to the Seller nor has any amount been paid, promised or intended to be intercession, facilitation or recommendation. The Seller agrees that if it is established at any time to the satisfaction of the buyers that the present declaration is in any way incorrect or if at a latter stage it is discovered by the Buyer that the Seller has engage any such individual / firm, and paid or intended to pay any amount, gift, reward, fees, commission or consideration to such person, party, firm or institution, whether before or after the signing of this contract, the Seller will be liable to refund that the amount to Buyer. The Seller will also be debarred from entering into any supply contract with the Govt. of India for a minimum period of five years. The Buyer will also have a right to consider cancellation of the contract either wholly or in part without any entitlement or compensation to the Seller who shall in such event be liable to refund all payments made by the Buyer in terms of the contract along with the interest at the rate of 2% per annum above, the LIBOR rate, the buyer will also have the right to receive any such amount from any contracts concluded earlier with the Govt. of India.

(b) Where regional offices of foreign firms have been authorized and set up within the country, they will not be treated as agents of the foreign firms and the financial dealings with such regional offices will be restricted to the norms stipulated by the RBI for each specific case. Such regional offices form integral part of the foreign vendors and their functions are totally controlled by their corporate office abroad and are hence not entitled to any agency commission.

(c) Where Indian / regional offices of foreign firms are to provide post sale services, such as installation, setting to work, execution of warranty operations and post-warranty maintenance etc., such stipulation will explicitly be made in the terms and conditions of the supply order / contract. Payment on this account will be made in the Indian rupees, except for the cost of spares / services required from abroad for post-warranty maintenance.

(d) It may also be mentioned in the context that the purchase / procurement of goods should preferably be made directly from the manufacturer. Either the Indian agent in terms of para (b), (c) on behalf of the foreign principal or the foreign principal directly could bid / participate in a tender but not both.

(e) Again, in case, where an agent in terms of para (b) above participate in a tender on behalf of the foreign manufacturer, they should not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent / parallel tender for the same item.

(f) Notwithstanding the above conditions, the terms of engagement of Agents and payment of Agency commission shall be governed by Ministry of Defence / Govt. of India guidelines / rules issued from time to time.

(g) Authorized representative of the foreign firm in India with prior intimation and letter of authorized from the foreign OEM or their principal shall be eligible to participate in TNC, CNC and PNC meeting.

41. **Indemnification Against Damage by Supplier**. The Contractor / Supplier, his employees, licensees, agents or Sub-Vendor / Sub-contractor, while on site of the Purchaser for the purpose of this contract, shall indemnify the Purchaser against direct damage and or injury to the property and or the person of the Purchaser or that of Purchaser's employees, agents, Sub-Contractors / Suppliers occurring and to the extent caused by the negligence of the Contractor / Supplier, his employees, licensees, agents or Sub-contractor by making good such damages to the property, or compensating personal injury and the total liability for such damages or injury shall be as mutually discussed and agreed to.

42. **Payment Against Time-Barred Claims**. All claims against the Procuring Entity shall be legally time-barred after three years calculated from the date when the payment falls due unless the payment claim has been under correspondence. The Procuring Entity is entitled to, and it shall be lawful for it to reject such claims.

43. **Supply of Products Strictly in Accordance with the Drawings / Specifications Mutually Agreed**. The equipment / products / items to be supplied shall be strictly in accordance with the Drawings / Specifications / Requirements indicated in the Tender / Enquiry / Order with deviations, if any, as mutually accepted.

44. **Indemnification Against Claims Arising for Infringement of Any Patent / Copy Rights**. The Supplier / Vendor shall hold harmless and keep the Purchaser indemnified against all claims arising as a result of infringement of any patent / copy rights on account of manufacture, sale or use of articles covered by the order. A clear & quite possession of goods should take place with the passing of the title on execution of order."

45. **Communication**. Any letter, facsimile message, e-mail intimation or notice sent to the Supplier / Vendor at the last known address mentioned in the offer / order shall be deemed to be valid communication for the purpose of the contract."

46. **Secrecy**: All property (such as materials, drawings, documents etc) issued by the Purchaser or any other individual or firm on behalf of the Purchaser in connection with the contract shall remain confidential, being the property of the Purchaser and the Sub-contractor / Supplier / Vendor shall undertake to return all such property so issued and will be responsible for any or all loss thereof and damage thereto resulting from whatever causes and shall reimburse the Purchaser the full amount of loss and damage. All information given to the supplier for the execution of the order is to be treated as SECRET / CONFIDENTIAL. The Technical information, Drawings, Specification and other related Documents forming part of this Enquiry /Order are the property of the Purchaser and shall not be used for any other purpose except for the execution of order. Any information / drawing etc. shall not be copied, transcribed, traced or reproduced in any other form or otherwise in whole / part or duplicated, modified, divulged and / or disclosed to a third party, not misused, used in any other form whatsoever without Purchaser's prior consent in writing except to the extent required for the execution of this order. At the time of tendering, the tenderer has to give an undertaking in favour of GRSE that in the event of any breach of the above provisions, he would make good of any loss /cost/damage / any other claim whatsoever preferred by anybody to GRSE in this respect."

47. **Examination of Price**: Where the contract price has not been fixed in effective competition and the contract is not for articles whose prices are controlled, the owner reserves the right to investigate reasonableness of the price paid and negotiate directly with the supplier/vendor for reduction of price where appropriate. The Owner can also ask for declaration that less basic price is not charged to other customers including Govt. and PSU."

48. **Individuality of Contract**: In the event of the offer getting converted into an order, the said order shall be treated as an individual contract, shall not allow any general lien to the parties and shall not get prejudiced in execution due to situation arising out of some other contract that the supplier may have with GRSE.

49. **Air Affreightment in Case of Urgency**: The Purchaser reserves the right to advise the Supplier /Vendor at short notice, of Purchaser's intention to airfreight certain items in part or full thereof, if the need arises, in order to meet the criticality of shipbuilding programme. The Sub-contractor / Supplier / Vendor shall make necessary arrangements for airworthy packing and forward the consignments to the Airport without any extra charges to the Purchaser. Sub-contractor / Supplier / Vendor shall fax the flight details and airmail well in advance all despatch documents in triplicate to the Purchaser."

50. **Access to the Books of Accounts**. In case it is found to the satisfaction of the Buyer that the Seller has engaged an Agent on said commission or influenced any person to obtain the contract as described in clauses relating to Agents/agency commission and penalty for use of undue influence, the Seller on specific request of the Buyer shall provide necessary information/inspection of the relevant financial documents/information."

51. **Use of Undue Influence / Corrupt Practices**:

(a) The Contractor / Supplier should give an undertaking that he has not given, offered or promised to give, directly or indirectly any gift, consideration, reward, commission, fees, brokerage or inducement to any person in service of the Purchaser or otherwise in procuring the contract or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of the Contract with the Purchaser for showing or forbearing to show favour or disfavour to any person in relation to the Contract or any other Contract with the Purchaser. Any breach of the aforesaid undertaking by the Contractor / Supplier or any one employed by him or acting on his behalf (whether with or without the knowledge of the Contractor / Supplier) or the commission of any offence by the Contractor / Supplier or any one employed by him or acting on his behalf, as defined in Chapter IX of the Indian Penal Code, 1980 or the Prevention of Corruption Act, 1947 or any other Act enacted for the prevention of corruption shall entitle the Purchaser to cancel the contract and all or any other contracts with the Contractor / Supplier and recover from the Contractor / Supplier the amount of any loss arising from such cancellation. A decision of the Purchaser or his nominee to the effect that a breach of the undertaking has been committed shall be final and binding on the Contractor / Supplier.

(b) The Contractor / Supplier shall not offer or agree to give any person in the employment of Purchaser any gift or consideration of any kind as “Inducement” or “reward” for doing or forbearing to do or for having done or foreborne to do any act in relation to the obtaining or execution of the contract/s. Any breach of the aforesaid condition by the Contractor / Suppliers or any one employed by them or acting on their behalf (whether with or without the knowledge of the Contractor / Suppliers) or the commission of any offence by the Contractor / Suppliers or by any one employed by them or acting on their behalf which shall be punishable under the Indian Penal Code 1980 or the Prevention of Corruption by Public Servants, shall entitle Purchaser to cancel the contract/s and all or any other contracts and then to recover from the Contractor / Supplier the amounts of any loss arising from such contracts’ cancellation, including but not limited to imposition of penal damages, forfeiture of Security Deposit, encashment of the Bank Guarantee and refund of the amounts paid by the Purchaser.

(c) In case, it is found to the satisfaction of the Purchaser that the Contractor / Supplier has engaged an Agent or paid commission or influenced any person to obtain the contract as described in clauses relating to Agents / Agency Commission and use of undue Influence, the Contractor / Supplier, on a specific request of the Purchaser shall provide necessary information / inspection of the relevant financial document / information

52. **Immunity of Government of India Clause**. It is expressly understood and agreed by and between M/s. (Contractor / Supplier) and M/S Garden Reach Shipbuilders & Engineers Ltd., Diesel Engine Plant, Plant Plaza Road, Dhurwa, Ranchi 43/46, Garden Reach Road, Kolkata –700024 (the Indian PSU) is entering into this Agreement solely on its own behalf and not on the behalf of any person or entity. In particular, it is expressly understood and agreed that the Government of India is not a party to this Agreement and has no liabilities, obligations or rights hereunder. It is expressly understood and agreed that GRSE-DEP (the Indian PSU) is an independent legal entity with power and authority to enter into contracts solely in its own behalf under the applicable of Laws of India and general principles of Contract Law. The (Contractor / Supplier) expressly agrees, acknowledges and understands that GRSE-DEP is not an agent, representative or delegate of the Government of India. It is further understood and agreed that the Government of India is not and shall not be liable for any acts, omissions and commissions, breaches or other wrongs arising out of the contract. Accordingly, (Contractor / Supplier) hereby expressly waives, releases and foregoes any and all actions or claims, including cross claims, impleader claims or counter claims against the Government of India arising out of this contract and covenants not to sue Government of India in any manner, claim, cause of action or thing whatsoever arising of or under this Agreement."

53. **Definition applicable for Terms and Conditions:**

(a) The word ‘Purchaser’ refers to GRSE-DEP, a Company registered under the Indian Companies Act, 1913 and it includes its successors or assigns.

(b) The word ‘Sub-contractor/ Supplier /Vendor ’ means the person / firm / Company who undertakes to manufacture and or supply and or undertake work of any nature assigned by the Purchaser from time to time and includes its successors or assigns.

(c) The word 'Owner' means the person or authority with whom GRSE-DEP (Purchaser) has contracted to carry out work in relation to which orders are placed by the Purchaser on the Supplier / Vendor under this contract for supply or manufacture of certain items and would include Department of Defence Production & Supplies, Ministry of Defence, Government of India, the Indian Navy, the Coast Guard, any other specified authority like GRSE's Customer.

54. **Contract Documents and Order of Precedence:**

(a) The following conditions and documents in indicated order of precedence (higher to lower) shall be considered an integral part of the contract/purchase order, irrespective of whether these are not appended/ referred to in it. Any generic reference to 'Contract' /Purchase Order shall imply reference to all these documents as well:

(i) Valid and authorized Amendments issued to the contract / purchase order

(ii) the Contract/Purchase Order

(iii) the Letter of Award (LoA)

(iv) Final written submissions made by the contractor during negotiations, if any including Commercial Negotiation Committee (CNC) and Technical Negotiation Committee (TNC) document.

(v) Tender Documents

(vi) the contractor's bid

(vii) Integrity Pact if any

(b) In the event of a conflict between the conditions of 'this Contract and the Specifications (SOTR) and/or approved Drawings, the Specifications and/ or approved Drawings shall prevail in Design aspects, and the conditions of Contract in other aspects. In the event of a conflict between Specifications and Drawings, the Drawings shall prevail provided the changes in the drawings with respect to specifications have been specifically brought out by the Seller to the Buyer at the time of approval of drawings.

55. **Order Acceptance**. The Seller must send order acceptance certificate in their letterhead and signed & stamped copy of this PO to GRSE within 07 days of order issue date by email (scan copy) and airmail. If no contrary advice is received within that period it will be deemed to have been accepted by you.

Enclosure-3

Bid Security Declaration Format
(On Bidders Letterhead)

Tender No: 00000000000000000000000000

Date:

To
Garden Reach Shipbuilders & Engineers Limited
Diesel Engine Plant
Plant Plaza Road
Dhurwa
Ranchi 834 004

I/We the undersigned declare that:-

1. I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

2. I/We accept that I/We may be disqualified/debarred from bidding against Garden Reach Shipbuilders & Engineers Limited tenders for a period of one year from the date of notification if I/We are in a breach of any obligation under the bid conditions, because I/We:-

(a) Have withdrawn/modified/amended, impairs or derogates from the tender, my/our bid during the period of bid validity specified in the form of Bid; or

(b) Having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or refuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security within the timeline, in accordance with the instructions to Bidders & as per tender terms & conditions.

3. I/We understand this Bid Securing Declaration shall cease to be valid on the Thirty First day from following:-

(a) if I am/We are not the successful Bidder, the receipt of your notification of the name of the successful Bidder; or

(b) the expiration of the validity of my/our Bid or any extension thereof.

Signed_____ (Signature of person whose name and capacity are shown)

In the capacity of_____(insert legal capacity of person signing the Bid Security Declaration)

Name: _____ (Insert complete name of name of person signing the declaration)

Duly authorized to sign the bid for an on behalf of _____ (Insert the complete name of Bidder)

Dated on _____day of _____2021 (Insert date of signing) Corporate seal (where appropriate)

(Note: in case of a Joint Venture, the Bid Securing Declaration must be in the name of all Partners to the Joint Ventures that submits the bid)

Enclosure-4

FORM NO. QS/03/0020

GARDEN REACH SHIPBUILDERS & ENGINEERS LIMITED
43/46, GARDEN REACH ROAD
KOLKATA – 700 024.

FORMAT OF BANK GUARANTEE TOWARDS SECURITY DEPOSIT.

Ref : 1. BPE Notification No. BPE/G:032/78/1(4)/Adv(F)/69 dated 24.10.78.
2. F.No.0(7)/B.O.III/75 dated 2.11.77.

GUARANTEE BOND

(to be used by all scheduled banks)

1. In consideration of M/s. Garden Reach Shipbuilders & Engineers Limited, 43/46, Garden Reach Road, Kolkata – 700 024(hereinafter called "The Buyer") having agreed to exempt M/s…… (hereinafter called "The Party") from the demand, under the terms and conditions contained in the Tender/ Purchase order no……dated …… (hereinafter called "the said Tender/ Order") of security deposit for the due fulfillment by the said Party's of the terms and conditions contained in the said Tender, on production of a Bank Guarantee for Rs…… (Rupees…… ……..only), we …… Bank Limited (hereinafter referred to as "the Bank") do hereby undertake to pay to the Buyer an amount not exceeding Rs…….. against any loss or damage caused to or suffered by the Buyer by reason of breach by the said Party of any of the terms or conditions contained in the said Tender.

2. We……Bank do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from the Buyer stating that the amount claimed is due by way of loss or damage caused, to or would be caused to or suffered by the Buyer by reason of any breach by the said Party of any of the terms or conditions contained in the said Tender or by reason of the Party's failure to perform the said Tender. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this guarantee.

3. We……Bank Limited further agree to the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Tender. Order and that it shall continue to be enforceable till all the dues of the Buyer under or by virtue of the said Tender/Order have been fully paid and its claims satisfied or discharged or till the Chairman & Managing Director, Garden Reach Shipbuilders & Engineers Limited, certifies that the terms & conditions of the said Tender have been fully and properly carried out by the said Party and accordingly discharges the Guarantee. Unless a demand or claim under this Guarantee is made on us in writing on or before the…… we shall be discharged from all liability under this Guarantee thereafter.

4. We……Bank Limited further agree with the Buyer that the Buyer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms & conditions of the said Tender/Order or to extended time of performance by the said party from time to time or to postpone for any time or from time to time any of the powers exercisable by the Buyer against the said Party and to forbear or enforce any of terms and conditions relating to the said Tender/Order and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Party or for any forbearance, act or omission on the part of the Buyer or any indulgence by the Buyer to the said Party or by any such matter of thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

5. We……Bank Limited lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the Buyer in writing.

6. Notwithstanding anything contained here in above, the liability of the Guarantor under this Guarantee is restricted to Rs…… (Rupees…… ……only) and that this Guarantee shall remain in force until its expiry on the ……(date), unless a suit or action to enforce a claim under this Guarantee is made against the Guarantor within six months from the date of expiry, all the rights of the beneficiary under the said Guarantee shall b released and discharged from all liabilities thereof.

For ……Bank Limited.
(seal)
Dated the ……day of ……2025

Enclosure-5

FORMAT NO. QS/03/0019

PROFORMA OF BANK GUARANTEE TOWARDS SATISFACTORY PERFORMANCE

THIS DEED OF GUARANTEE made this .....day of .....

BETWEEN.....
(hereinafter called " THE BANK ") which expression shall unless excluded by or repugnant to the context , be deemed to include its successors in office and assigns of the ONE Part and GARDEN REACH SHIIPBUILDERS AND ENGINEERS LIMITED, having their Head Office at 43/46, Garden Reach Road, Calcutta – 700024 (hereinafter called " THE BUYERS ") which expression shall unless excluded by or repugnant to the context be deemed to include their successors in Office and assigns of the part .

WHEREAS Messers .....having its registered office at .....(hereinafter called " THE SELLER ") have accepted an Order No. ..... dated..... for supply of ..... from the Buyer to manufacture and deliver the same to Buyer in good condition.

AND WHEREAS it is one of the terms of the said order that the seller shall furnish to the Buyer a Bank Guarantee comprising .....% of the value of the order amounting to Rs. ..... (Rupees ....) only for the satisfactory performance of the equipment supplied against the said order at least for a period of ..... from the date of supply i.e. from .....

AND WHEREAS the Buyer has agreed to accept such Bank Guarantee.

NOW THIS INDENTURE WITNESSETH THAT in consideration of the premise the Bank hereby unequivocally undertakes and agrees with the Buyer to pay to the Buyer upon demand in writing whenever required so by them to do and within a fortnight from date of such demand sum or sums not exceeding in the whole of Rs. ..... (Rupees.....) only as may become payable to the Buyer by the Seller by virtue of or arising out of the Terms and Conditions of the said Order.

Provided it is hereby expressly stipulated and agreed that if any question as to whether any sum has become payable by the seller to the buyer by virtue of or arising out of the said order, the decision of the Buyer will be final and conclusive and the Guarantee herein contained shall not be revocable by notice or by reason of dissolution or winding up of the business of the seller of any change in the constitution or composition of the seller's business and the liability of the bank under this presents shall not be impaired in any way by any extension of time or alteration made given conceded in the conditions of the said order or any other indulgence given by the buyer or by reasons of any failure on the part of the Buyer to enforce any of their remedies against the sellers and / or by reasons of failure on the part of the Buyer to observe or perform any of the stipulation contained in the said order and to be observed or performed by the sellers or by any other dealings between the Buyer and Seller whether any of the above takes place with or without the knowledge of the Bank and that the Guarantee herein contained shall remain in full force and virtue only . All claims and demands of the Buyer arising out of or in connection with the said order have been fully paid and satisfied PROVIDED ALWAYS AND IT IS HEREBY AGREED BETWEEN THE PARTIES THAT a Bank's liability under this Indenture shall remain in full force from the date of issue of the Guarantee till.....and is limited to a sum of Rs. ..... (Rupees.....) only.

NOTWITHSTANDING anything stated above our liability under the Guarantee is restricted to Rs. ..... (Rupees.....) only. Our Guarantee shall remain in force up to..... and unless a claim or demand in writing is made on the bank within 6 months from the date of expiry of the Bank Guarantee the bank shall be released and discharged from all liabilities thereunder.

Date :.....2025

Signature of Bank's Authorised Signatories with Code No., Name, Designation and Bank Stamp

Enclosure-6

RTGS/NEFT – MANDATE AUTHORISATION FORM

1. Supplier's / Vendor's Name:

2. Supplier's / Vendor's Name as per Bank Records:

3A. Supplier's Code **3B. Supplier's PAN Number: #**

Quoting PAN No. in all the e-returns has become 100% mandatory w.e.f. 14-02-2008 hence, ensure to fill-up this and also send a photocopy of PAN duly self-attested. If there is any difference between the name given in the supplier's name and name given in the PAN card, then a note to explain the reason for the difference and the correlation between both.

4. Supplier's / Vendor's Complete Postal Address:

Door No.								Street:											
Location:								District:											
City:								State:					PIN						

5. Supplier's / Vendor's E-mail ID:

6. Supplier's / Vendor's Telephone Number & Mobile Phone Number:

M

7. Name of the Bank:

8. Bank (Branch) Postal Address:

9. RTGS*/NEFT - Code of the Branch:**

RTGS:																			
NEFT:																			

RTGS* - "Real Time Gross Settlement", NEFT**- "National Electronic Fund Transfer".

These "IFSC" Codes are unique numbers of each Branch – "Indian Financial Services Code". For some Branches both the codes are the same and some Banks, may maintain one Code No. for RTGS and another Code No. for NEFT. Hence, please fill-up both the rows, even if it is the same.

10. Nature of the Account: (Tick whichever is applicable & put 'x' mark for the balance two accounts)

Savings Bank Account:		Cash Credit Account:		Current Account:	

11. Bank Account Number of the Supplier: ©

© Fill up from the 1st column. For the balance left out blank columns, please mention 'x' mark.

We hereby declare that the particulars given above are correct and complete. If the transaction is delayed for reasons of incomplete or incorrect information, we would not hold GRSE-DEP responsible.

Date: Supplier's Seal: Authorized Signature of the Supplier:

Certified that the particulars as per Serial Numbers 2, 7 to 11 are correct as per our records.

Date: Bank's Stamp Authorized Signature of the Officer of the Bank.

Enclosure-7

CONTACT DETAILS OF BIDDER

Name of Bidder:	
Address:	
Contact Number:	
email id:	

Details of Authorized Representatives; (Three Levels)

1.

Name:	
Designation	
Direct Landline Number:	
Mobile Number:	
Email id:	

2.

Name:	
Designation	
Direct Landline Number:	
Mobile Number:	
Email id:	

3.

Name:	
Designation	
Direct Landline Number:	
Mobile Number:	
Email id:	

Land Border Clause

Declaration of Compliance of Order (Public Procurement No.1, 2 & 3) dtd 23 Jul 2020 & 24 Jul 2020 on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017

This declaration must form part of all tenders & it contains general information and serves as a declaration form for all bidders. (Before completing this declaration, bidders must study the General Conditions, Definitions, Govt Directives applicable in respect of Public Procurement No.1, 2 & 3) dated 23 Jul 2020 & 24 Jul 2020 on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017& prescribed tender conditions).

DECLARATION BY AUTHORISED SIGNATORY OF THE FIRM

I, the undersigned, …… (*full names*), do hereby declare, in my capacity as …… of M/s ……..(*name of bidder entity*), that:

The facts contained herein are within my own personal knowledge.

I have read the Order (Public Procurement No.1, 2 & 3) dated 23 Jul 2020 & 24 Jul 2020 on the subject of Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order

3) I certify that M/s …….. (*name of bidder entity*) ***is not from such a country or, is from such a country*** *(strike out whichever is not applicable*. I hereby certify that this SUPPLIER fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority is attached]

4) I understand that the submission of incorrect data and / or if certificate / declaration given by M/s ……..(*name of bidder entity*) is found to be false, this would be a ground for immediate termination and further legal action in accordance with law as per Clause 12 of the Public Order on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017

AUTHORISED SIGNATURE: _____ **DATE:** _____

Seal / Stamp of Bidder

Enclosure-9

REF TENDER NO. Dt:

INTEGRITY PACT TO BE EXECUTED FOR HIGH VALUE ORDERS

1. **IN FORMAT ENCLOSED.**
2. **IN NON – JUDICIAL STAMP PAPER OF VALUE RS. 110/-.**
3. **TO BE EXECUTED BY PERSON WITH APPROPRIATE AUTHORITY.**

INTEGRITY PACT

This Integrity Pact is made on …… day of ……. (month & year) between M/s. Garden Reach Shipbuilders & Engineers Limited (GRSE) having its Registered & Corporate office at GRSE Bhavan, 61, Garden Reach Road, Kolkata, West Bengal – 700024, India, hereinafter referred to as "The Principal"

and

M/s ……., a company/ firm/ individual (status of the company), PSU/Partnership/Joint Venture and having its registered office at ……., hereinafter referred to as " the Bidder / Contractor"

The Principal intends to award, under laid down organizational procedures, contract for…….. The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relations with its Capital Bidder(s)/ or Contractors(s).

In order to achieve these goals, the Principal has appointed Independent External Monitors (IEMs) in consultation with Central Vigilance Commission, who will monitor the tender process and the execution of the contract for compliance with the principals mentioned above.

Section 1 – Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

(a) No employee of the Principal/Buyer, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

(b) The Principal/Buyer will during the tender process treat all Bidder(s) with equity and reason. The Principal/Buyer will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

(c) The principal will exclude from the process all known prejudiced persons.

(d) The Principal/Buyer undertakes to scrupulously follow the tender containing Standard Terms & Conditions (STAC) and General Terms & Conditions (GT&C) in respect of procurement contracts for goods, services and civil works.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ Contractor(s)

(1) The Bidder(s) /Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

(a) The Bidder(s) / Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender

process or during the execution of the contract.

(b) The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

(c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further, the Bidder(s)/Contractor(s) will not use improperly, for purpose of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

(d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the Bidder(s) /Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further, details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s) /Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only, copy of the "Guidelines on Indian agent of foreign Supplier" is annexed and marked as annex.

(e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

(f) The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

(g) In case the Bidder(s) / Contractor(s) is a Joint Venture, then all the Partners of the Joint Venture should sign this Integrity Pact. The Bidder(s) / Contractor(s) shall ensure the compliance of the provisions of this Integrity Pact by all its Joint Venture Partners. Further, the Bidder(s) / Contractor(s) shall be held responsible for any violation/breach of the provisions of IP by any one or more of its Partners.

(h) The Bidder(s)/ Contractor(s) shall ensure compliance of the provisions of this Integrity Pact by sub-contractor(s), if any. In this regard, Bidder(s)/ Contractor(s) shall ensure for entering into a similar Integrity pact arrangement with their respective sub-contractor(s) before entering into any specific sub contractual arrangement, in connection with execution of main contract with Principal. The Integrity Pact shall be generally executed in all such cases where the value of sub contract works is Rs. 2 Crore and above, the content of IP can be decided by Bidder(s)/ Contractor(s), which shall be in similar lines of this main Integrity Pact. The signed Integrity Pact needs to be retained by the Bidder(s)/Seller(s) and shall be submitted to Principal, upon seeking such information. Further, the Bidder(s)/Seller(s) shall be held responsible for any violation/breach of the provisions by its sub-contractor(s).

(i) The Bidder(s)/ Contractor(s) signing Integrity Pact shall not approach the any Court of Law while representing the matters to IEMs and until IEMs delivers their decision in the matter.

Section 3 – Fall Clause:

The bidder undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the Bidder to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the Bidder to the Buyer, if the contract has already been concluded.

Section 4 - Previous Transgression

(1) The Bidder(s)/ Contractor(s) declares that no previous transgressions have occurred in the last 3 years from the date of signing of this Integrity Pact with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the Company's procedure.

Section 5 – Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s) before award *or* during execution has committed a transgression through a violation of Section 2, 3 or 4 above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s) /Contractor(s) from the tender process or take action as per the extant procedure of the company.

Section 6 – Compensation for Damages

(1) If the *Principal* has disqualified the Bidder(s) from the tender process prior to the award according to Section 5, the Principal is entitled to demand and recover the damages equivalent to earnest Money Deposit /Bid Security.

(2) If the principal has terminated the contract according to Section 5, or if the Principal is entitled to terminate the contract according to Section 5, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 7 - Equal treatment of all Bidders/ Contractors/ Sub-contractors

(1) The Bidder(s) /Contractor(s) undertake(s) to demand from all sub-contractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

(2) The Principal will enter into agreements with identical conditions as this one with all Bidders, Contractors and Sub-contractors.

(3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 8 – Criminal charges against violating Bidder(s) / Contractor(s) / Sub-contractor(s)

If the Principal obtains knowledge of conduct of a Bidder(s) / Contractor(s) or Sub-contractor(s), or of an employee or a representative or an associate of a Bidder(s) / Contractor(s) or Sub-contractor(s) which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 9 – Independent External Monitors (IEMs)

(1) The Principal has appointed competent and credible Independent External Monitors (IEMs) for this Integrity Pact in consultation with the Central Vigilance Commission. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.

(2) The IEMs are not subject to instructions by the representative of the parties and perform their functions neutrally and independently. IEMs reports to the Chairman and Managing Director (CMD) of the GRSE.

(3) The Bidder(s) /Contractor(s) accepts that the IEMs have the right to access without restriction to all

Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the IEMs, upon their request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Sub-contractors. The IEMs are under contractual obligation to treat the information and documents of the Bidder(s) /Contractor(s) /Subcontractor(s) with confidentiality.

(4) The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.

(5) As soon as the IEMs notices, or believes to notice, a violation of this Integrity Pact, they will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The IEMs can in this submit recommendations, these recommendations would be in the nature of advice would not be legally binding. Beyond this, the IEMs has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

(6) The IEMs will submit a written report to the Chairman and Managing Director of the GRSE within 8 to 10 weeks from the date of reference or intimation to them by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

(7) IEMs shall be entitled to compensation on the same terms as being extended to / provided to Independent Directors on the Board of the GRSE.

(8) If the IEMs have reported to the Chairman and Managing Director of the GRSE a substantiated suspicion of an offence under relevant IPC/PC Act, and the Chairman and Managing Director of the GRSE has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the IEMs may also transmit this information directly to the Central Vigilance Commissioner.

Section 10 – Integrity Pact Duration

The validity of this Integrity Pact shall be from the date of its signing and extend up to the complete execution of the contract to the satisfaction of both the Buyer and the Bidder/Seller, including warranty period, whichever is later. In case of Bidder is unsuccessful, this Integrity Pact shall expiry after six months from the date of the signing of the contract.

Section 11 – Law and Place of Jurisdiction

This Integrity Pact is subject to Indian Laws. Place of performance and jurisdiction is the Registered and Corporate Office of the Principal i.e. Kolkata, India

Section 12 – Other Legal Actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

Section 13 – Other provisions

(1) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(2) If the Contractor is a partnership or a consortium or a joint venture, this pact must be signed by all partners or consortium/joint venture.

(3) Should one or several provisions of this Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

The Parties hereby sign this Integrity Pact, is deemed as part of the Contract, at ……..… on …….. and parties concerned are bound by it provisions.

_____	_____
(For & On behalf of the Principal)	**(For & On behalf of Bidder/ Contractor)**
(Office Seal)	**(Office Seal)**
Date:	Date:
Place:	Place:
Witness - 1:	Witness - 1:
Name & Address	Name & Address
_____	_____
_____	_____
_____	_____
Witness - 2:	Witness - 2:
Name & Address	Name & Address
_____	_____
_____	_____
_____	_____