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TENDER SPECIFICATION FOR BOILER FOR BNS SOMUDRA AVIJAN

1. **Name of the Equipment.** Boiler.
2. **Purpose.** New boilers will be installed onboard BNS SOMUDRA AVIJAN (EX USCGC RUSH) replacing old boilers. The boilers will be used as steam generator for fresh water production by ship borne Evaporator, operating Scullery, Drier and also for galley cooking.
3. **Quantity.** 02 (Two) in number complete sets.
4. **Manufacturer, Principal Supplier & Local Agent.** Name and full address are to be mentioned.

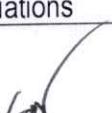
Ser	Description	Remarks
a.	Brand/Manufacture	To be mentioned
b.	Principal Supplier	To be mentioned
c.	Local Agent	To be mentioned

5. **Year of Manufacture.** 2026 or later. The item should be brand new and original.
6. **Country of Origin.** USA, UK and EU Countries.
7. **Manufacturing Country.** Same as the Country of Origin.
8. **Certificate/Document of Authentication.** The local agent must provide the following original certificate(s)/ document(s) with the offer/quotation of items as regard to the genuinity of the source and item(s) to establish a chain of links from the original source to supply:
  - a. One certificate/ document from the manufacturer in favour of the supplier (in the case of the manufacturer as the direct source).
  - b. Two certificates/ documents, one from the manufacturer to the authorised agent and the other from the authorised agent to the supplier (in case the authorised agent is the immediate source).
  - c. Three certificates/ documents, first one by the manufacturer to the authorised agent, second one by the authorised agent to the sub-agent and third one by the sub-agent to the supplier (in case of the sub-agent as immediate source). If the supplier is unable to obtain the first certificate (by the manufacturer to an authorised agent), then relevant documents to prove the agency-ship of its claimed agent of the recognised manufacturer need to be produced.
9. **Standard.**
  - a. The Boiler are to be designed and constructed fulfilling the requirement of ASME/BPVC standards. The standard(s) to which the quoted Boiler comply with are to be clearly specified in the quotation. The same information (name of standard) is to be available on the OEM provided brochure (brochure to be essentially provided with the quotation). Necessary document(s)/certification(s) are to be attached with the offer in favour of the statement(s).
  - b. The OEM shall posses ISO Certificate or ASME Certificates for their establishment. The copy of the valid ISO or ASME Certificate shall be placed with the technical offer.
10. **Scope of Supply.** The scope of supply is to include the following:
  - a. 02 sets of Boilers, with all items necessary for immediate operation without the requirement of any other items (attachments, accessories, consumables, etc) (as per paragraphs 11 and 12).

- b. Spare parts (as per paragraphs 13).
- c. Tools and special tools (as per paragraphs 14 and 15).
- d. Documents (user manual, maintenance manual, spare parts catalogue, drawings, etc, as applicable) and Certificates (as per paragraphs 16).
- e. Test, Trial and Acceptance (as per paragraph 17).
- f. Training (as per paragraph 19).
- g. Pre-Shipment Inspection (PSI) and Factory Acceptance Test (FAT) (as per paragraph 20).
- h. Installation, Supervision, and Commissioning (as per paragraph 21).
- j. Warranty and Guarantee (as per paragraphs 23 and 24).
- k. Any other relevant issue (if any).

11. Technical Specifications.

Ser	Description	Remarks
a.	Type	4- Pass Fire tube Steam Generator
b.	Model	To be mentioned. However it must be compatible with existing system (Existing Johnston Boiler Company Model: 509S-4PC)
c.	Maker	To be mentioned
d.	Water Tank Capacity	To be mentioned
e.	Boiler Steaming Rate	At high fire: 2300 lb/h At low fire: 483 lb/h
f.	Design Pressure	Not below 150 psi
g.	Operating Pressure	80-100 psi (Approx.)
h.	Steam Pressure and Temperature at Evaporator Input	<b>Temp:</b> Minimum 215 deg Fahrenheit <b>Pressure:</b> 35 psi
j.	Thermal Efficiency	Minimum 75%
k.	Dimensions of the Boiler Vessel	(Maximum) LxWxH: L- 7.75 ft (93") x W- 5.9 ft (71") x H- 7.1 ft (86") Body Circumference (Maximum)- Approx. 18.6 ft Heating Surface:182 sq ft (Approx.) Furnace Volume: 13.8 cu ft (Approx.)
l.	Material	Material must be of sufficient strength to sustain high temp and pressure. It should have high resistivity against corrosion. The material grade should allow simple cold and hot works to be carried out in case of repair works
m.	Tube Size	To be mentioned
n.	Number of Fire Tubes	To be mentioned
p.	Burner & Fuel System	
	(a) Burner Type	To be mentioned
	(b) Ignition System	Air atomized pilot Ignited type with an integral combustion Air Blower
q.	Safety & Control Features	
	(a) Pressure Relief Valves	To be provided for preventing overpressure situations



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	(b) Safety Valve	To be provided to protect against overpressure
	(c) Safety Valve Set Pressure	150 psi
	(d) Safety Valve Relieving Capacity	To be mentioned. Capacity must exceed the maximum steaming rate of the boiler (2300 lb/hr) and full satisfy the ASME safety margin requirements to prevent overpressure, similar to or better than the existing system. (Existing system: 3842 lb/hr)
	(e) Low-water cut-off	To be provided to prevent operation without sufficient water
	(f) Water Level Indicators & Alarms	To prevent dry running
	(g) High-pressure alarm	To be provided for automatically shutting down the system in case of overpressure
	(h) Drain Valve	Standard drainage system to remove sludge and residues
	(j) Automatic Control Panel	Preferably PLC-based control system to be provided. Option for Emergency Stop from Main Control Console to be incorporated.
r.	Feed Water System	To be provided including pumps, tanks, and piping
s.	Boiler Feed Pump Specifications	
	(a) Pump Type	To be mentioned
	(b) Number of Pumps	2 (One as Standby)
	(c) Pump Capacity	To be mentioned The pump must have sufficient flow and discharge head to feed the boiler continuously at maximum operating pressure plus required safety margins. The pump shall fully satisfy the boiler's operational requirements. (Existing Pump Capacity: 15 GPM at 243 m)
	(d) Pressure Ratings	400 psi
	(e) Pump Material	Bronze
	(f) Voltage, Phase & Hz	440-460 V, 3 Phase, 60 Hz
t.	Piping consideration	Necessary piping arrangements need to be done for the whole installation process detective piping from boiler to the service areas (Evaporator, Galley, Scullery, Drier) need to be changed (Approx. 20m)
u.	Max Continuous Running Time	Minimum 360 hrs (15 Days)
v.	Maintenance Schedule	To be mentioned. Maintenance manuals must include all routine hourly maintenance works. Longer maintenance interval is preferable

12. **Standard Accessories.** Standard accessories must include all items and accessories essential for operating the Boiler, whether mentioned in the specification or not. The price of standard accessories are to be included in FOB value. However, an itemwise price list of standard accessories is to be provided with the offer for reference value only.

13. **Spare Parts.** A recommended list of spare parts required for 05 years of satisfactory operation must be provided, indicating the itemwise price. Only the prices of selected items by BN will be added to the total price while evaluating the comparative price of the suppliers.

14. **Tools.** 1 (one) set of standard tools for the maintenance of Boiler is to be provided, indicating itemwise price. The quantity and size of these tools are to be mentioned in the quotation. The price will be added to the total cost while evaluating the comparative price of the suppliers.



15. **Special Tools.** A recommended list of special tools required for carrying out maintenance of Boiler is to be submitted with the quotation indicating itemwise price. That price will be added to the total price while evaluating the comparative price of the suppliers.

16. **Documents.** 2 (two) sets of the following documents in English are to be supplied with Boiler (free of cost):

- a. The instruction manual including technical specifications, installation, operation, and maintenance.
- b. Spare parts catalogue and its components.
- c. Factory test certificate/ performance certificate.

17. **Test, Trial and Acceptance.** The buyer will carry out tests and trials of the item at Chattogram in the presence of the supplier's representative. After satisfactory test and trial, an acceptance certificate will be signed jointly by the supplier's representative and the buyer's representative.

18. **Record of Sales.** Record of sales of the quoted model of the Boiler indicating year and buyer with full address is to be submitted with the quotation.

19. **Training.** The supplier's/ manufacturer's installation engineer will provide operation and maintenance training in Bangladesh to the operators for 5 (five) days after the Boiler is tested, trialled, and commissioned. The bidder will quote the cost of training separately in their financial offer. The supplier will bear the cost of the trainers' transportation, accommodation, food, medical support, etc.

20. **Pre-Shipment Inspection (PSI) and Factory Acceptance Test (FAT).**

a. Pre-shipment Inspection (PSI) and Factory Acceptance Test (FAT) will be carried out by 3 (three) BN officers for 4 (four) days, excluding the journey period, at the buyer's expense. The supplier should inform the buyer about the date, schedule and procedure of PSI and FAT at least 8 (eight) weeks prior to the commencement of the said PSI and FAT. After inspection, a joint inspection report will be prepared and signed by both the seller and buyer's representatives.

b. On return from the country of supplier, the BN officers will submit a report to DNE. DNE, through DTS, will, in turn, forward the final decision along with the PSI and FAT report within 2 (two) weeks, based on which DGDP will render clearance for the shipment of stores to the supplier concerned. The supplier will not ship any item of the contract without clearance from the DGDP.

c. All types of movement/ transportation (air, sea, road, rail) of the BN officer within the manufacturer/ supplier's country, reception and arrangement for entry into the country/ concerned area for the PSI and FAT are to be borne by the supplier.

21. **Installation, Supervision, and Commissioning.**

The Boiler installation shall be done by BN as per directives/ drawings of OEM. The BIDDER shall deploy the required number of OEM-authorised technicians for the successful completion of the project. BN will provide Docking (if necessary) and other work-related facilities. BN will also provide the materials and support related to ships structure (i.e., plates, steel structure, frames, strengthening of structure etc.). Required necessary support from Dockyard is to be mentioned in the offer. The OEM/ the supplier will be responsible for the complete supervision, installation and commissioning of the boiler.

22. **Site Visit.** Bidder may visit the ship to get detail information before submitting the quotation. Based on the site visit/study of the existing boiler on the vessel, a detailed calculation of the proposed equipment package must be carried out. It should be ensured that the installation of the proposed boiler does not adversely affect the



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performance of the vessel in any way. Additionally, during the side visit, a technical assessment must be conducted to identify and address any potential issues that may arise during the installation of the proposed boiler.

23. **Warranty.** The principal/manufacturer will give a warranty for trouble-free operation for at least one year from the date of acceptance by the buyer. During the warranty period, if the Boiler remains non-operational due to any action pending by the supplier, the warranty will be extended for the same period. The warranty covers all parts and labour (including the cost of the service engineer) throughout the warranty period.

24. **Guarantee.** The manufacturer will guarantee to supply the spare parts for at least 5 (five) years at a reasonable price. The annual increase in the price of spares should not be more than 5% of the price list provided with the quotation.

25. **Shipment.**

- a. The supplier will arrange the shipment of all items by sea to Chittagong Port, Bangladesh.
- b. All items are to be delivered in sea-worthy packing to ensure safe transportation by sea.
- c. All packages must have detailed packing notes showing their contents, and they must be marked with the consignee's name, address, and gross weight.
- d. The supplier will arrange transportation of all supplied items from Chittagong port to the NSD Chattogram.
- e. **Port of Shipment.** Any port of the manufacturing country. In case of shipment through any port of the manufacturer's authorised dealer, the relevant manufacturer's certificate is to be provided as proof of the genuineness of the offered item.

26. **Delivery.**

- a. The items are to be delivered within **9 (Nine) months** from the date of signing the contract to the following consignee:

The Commanding Officer  
Naval Stores Depot Chattogram  
New Mooring, Chattogram, Bangladesh.

- b. **Place of Delivery.** NSD Chattogram.
- c. The supplier will carry the items from Chittagong Port to NSD Chattogram at the cost and risk of the supplier.

27. **Validity of Offer.** The offer should remain valid till **180 days** from the date of tender opening.

28. **Terms of Payment.** L/C for the full purchase amount will be opened in favour of the principal supplier under the following payment terms:

- a. 80% of the total LC value will be paid on delivery of the items described under the scope of supply and on production of necessary shipping documents.
- b. The remaining 20% of the LC value will be paid upon producing an 'Acceptance Certificate' after satisfactory test and trial jointly carried out by the buyer's and supplier's representatives.

29. **Condition for Acceptance of Quotation.** The quotation has to have supporting documents (booklets, leaflets, catalogues, brochures, etc.) with detailed particulars of the Boiler. If detailed information regarding specifications, maker's books and catalogue for the quoted model of the Boiler, spare parts, accessories, scope of supply, etc, are not provided, the quotation will not be accepted.

30. **Compliance Statement.** A compliance statement fulfilling all the requirements of the tender is to be submitted with the offer for evaluation of the quotations. Merely stating 'Yes' or 'No' will not suffice, rather detailed descriptions/information as required are to be provided. An incomplete compliance statement may contribute to the cancellation of the offer. If any clause of this specification does not commensurate with the offered Boiler, the deviation must be spelt out clearly.

A handwritten signature in black ink, appearing to read "Somy".