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TENDER SPECIFICATION FOR BOILER FOR BNS SOMUDRA AVIJAN

1. **Name of the Equipment.** Marine Boiler.
2. **Purpose.** It will be used onboard naval ship to produce required Steam. The steam is to be used 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.** 2025 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 possess ISO Certificate for their establishment. The copy of the valid ISO Certificate shall be placed with the technical offer.

10. **Scope of Supply.** The scope of supply is to include the following:

- a. 02 x 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).

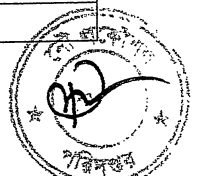


RESTRICTED

- b. Optional Items and spare parts (as per paragraphs 13 and 14).
- c. Tools and special tools (as per paragraphs 15 and 16).
- d. Documents (user manual, maintenance manual, spare parts catalogue, drawings, etc, as applicable) and Certificates (as per paragraphs 17).
- e. Test, Trial and Acceptance (as per paragraph 18).
- f. Training (as per paragraph 20).
- g. Pre-Shipment Inspection (PSI) and Factory Acceptance Test (FAT) (as per paragraph 21).
- h. Installation, Supervision, and Commissioning (as per paragraph 22).
- j. Warranty and Guarantee (as per paragraphs 24 and 25).
- k. Any other relevant issue (if any).

11. **Technical Specifications.**

Ser	Description	Remarks
a.	Type	Must be Marine Type capable of operating in Corrosive environment.
b.	Model	To be mentioned. However it must be compatible with existing system (509S-4PC)
c.	Maker	Johnston Boiler Co. USA
d.	Water Tank Capacity	To be mentioned.
e.	Boiler Steaming Rate	Not below 2500 lb/h @ High Fire
f.	Design Pressure	Not below 150 psi
g.	Operating Pressure	80-100 psi (Approx.)
h.	Steam Pressure and Temperature at Evaporator Input	Temp: Minimum 215 deg Fahrenheit Pressure: 35 psi
j.	Thermal Efficiency	Minimum 75%
k.	Dimensions of the Boiler Vessel	(Maximum) LxBxH: 7 ft x4.2 ft x 5 ft Body Circumference (Maximum)- 14 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
	(b) Safety Valve	To be provided to protect against overpressure
	(c) Safety Valve Set Pressure	150 psi



RESTRICTED

	(d) Safety Valve Relieving Capacity	3842 lb/hr (Approx.)
	(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	Not less than 15 GPM at 243 mtr
	(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 itemised price list of standard accessories is to be provided with the offer for reference value only.

13. **Optional Items.** A recommended list of optional items (if any) required operating Boiler. Only the prices of selected items by BN will be added to the total price when evaluating the comparative prices of the suppliers.

Ser	Description	Qty
(a)	Economizer	01
(b)	Deaerator	01
(c)	Soot Blower	01

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

15. **Tools.** 1 (one) set of standard tools for the maintenance of Boiler is to be provided, indicating itemised 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.

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



17. **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.

18. **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.

19. **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.

20. **Training.** The supplier's/manufacture'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.

21. **Pre-shipment Inspection (PSI) and Factory Acceptance Test (FAT).**

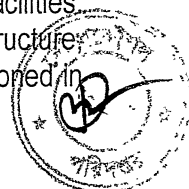
a. Pre-shipment Inspection (PSI) and Factory Acceptance Test (FAT) will be carried out by 3 (three) BN officers for 4 (four) days, excluding the journey period, at the buyer's expense. The supplier should inform the buyer about the date, schedule and procedure of PSI and FAT at least 8 (eight) weeks 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.

22. **Installation, Supervision, and Commissioning.**

The Boiler removal and installation components shall be carried out by the OEM-authorized technicians in the presence of Ship and BN Dockyard Personnel. The BIDDER shall deploy the required number of OEM-authorized technicians for the successful completion of the project. The bidder is to appoint a suitable 'Project Manager/Supervisor' to supervise and coordinate the project works on-site time to time (as needed basis) at bidder's arrangement. The 'Project Manager/Supervisor' should have relevant academic qualifications with sufficient proven experience in managing such projects. He/she should have experience of working with the suggested OEMs. He/she should be authorized by all the OEMs for installation and managing the project. The bidder is to submit a full 'Curriculum Vitae' of the 'Project Manager/Supervisor' before the contract is signed. He/she shall carry out a survey of the Ship and Dockyard facilities within 1 (one) month of signing the contract. The Project Manager/Supervisor shall be on-site before the commencement of actual work. After initiation, of works, he will visit and monitor time to time as required. All administrative and transport facilities to the Project Manager/Supervisor on-site are to be provided by the bidder. All components/materials related to installation (i.e., pumps, compressions, fans, cablings, etc.) are to be provided by the bidder. 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



RESTRICTED

the offer. All necessary tools, including special tools required for the installation process, are to be provided by the bidder. The OEM/ the supplier will be responsible for the complete supervision, installation and commissioning of the boiler.

23. **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 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.

24. **Warranty.** The principal/manufacture 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.

25. **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.

26. **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.

27. **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.

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

29. **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.



RESTRICTED

30. **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.

31. **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.

