

1. Invitation for Expression of Interest

Gun and Shell Factory Cossipore , a Unit of Advanced Weapon and Equipment India Ltd., Ministry of Defence, Government of India (hereafter referred as GSF) invites EOIs from reputed manufacturers (hereafter referred as 'Firm') to develop the following parts of 84mm Light Weight Recoilless weapon.

1	Barrel Assembly	A Titanium Alloy tube with rifled groove in bore and external surface wound with Carbon & Glass composite lamination
2	Venturi	A conical shaped part made of Titanium Alloy

GSF will provide the design and test documents of the existing Barrel Assembly and Venturi where the metallic parts are made of Steel. The project information and the broad scope of work are detailed in this document. Interested firms fulfilling the minimum qualification criteria as stated in the EOI, may submit their complete details as per the requirement given in this Eoi document on or before 1700 Hrs of 31-03-2022. For any further queries and clarifications the firm may contact Shri Kiran, Asst Dir on Telephone No 033-25320081 or on e-mail id: kirankiran.ofb@ofb.gov.in

2. Introduction to the Project

- 2.1 About GSF: Gun and Shell Factory, a Unit of Advanced Weapon and Equipment India Ltd., Ministry of Defence, Government of India, is engaged in manufacture of medium caliber weapon and ammunition hardware. The factory manufactures AK 630M Gun System, 51mm Mortar, 81mm Mortar, 3PDR Saluting Gun and 84mm RL Mark-III weapon in its modern facility located at the eastern bank of River Hoogly at Cossipore Kolkata.
- 2.2 Aim: In an endeavor to upgrade and modernise the existing 84mm RL Mark-III weapon GSF has envisaged to convert the metallic tube of the Barrel Assembly and Venturi from its current design which is based on steel to a lighter material Titanium alloy. Mechanical processing of Titanium alloy is a specialized work which can be accomplished by capable and experienced manufacturers.

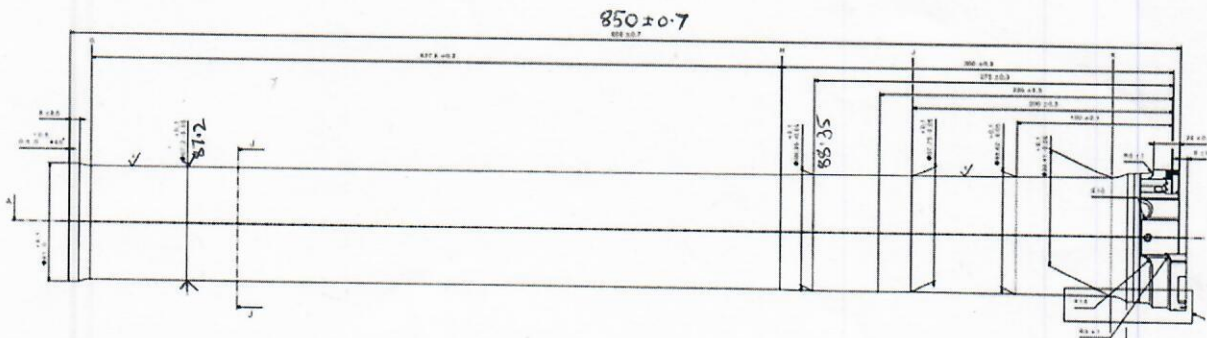
3. Design

3.1 Barrel Assembly:

3.1.1 Barrel Assembly comprises of a metallic tube (Liner) which is wound externally by Carbon & Glass Fibre reinforced composite material. Rifled grooves are made in the inner bore of the metallic tube. A set of Brackets are attached on the external surface of the Laminated Tube. At present the liner is made of Steel.

3.1.2 Rough sketch of a Barrel Assembly and Liner. All Dimensions are in mm.

a) Liner



4. Broad Scope of Work

- 4.1 The project will be under Make-I category of DPP 2016.
- 4.2 All design Documents of the existing Barrel Assembly and Venturi will be supplied to the firm after signing of a Non-Disclosure Agreement by the firm.
- 4.3 The firm have to develop 05 Nos prototype samples of Liner and Veturi as per the drawings supplied by GSF using suitable grade of Titanium alloy. The firm should develop suitable process for checking flaws including cracks in the finished Liner and Venturi
- 4.4 The firm to develop suitable process for Carbon and Glass composite lamination process and manufacture 05 prototype samples of Barrels assembly by lamination of the Titanium alloy tube.
- 4.5 Five Nos of samples will be subjected to Dimensional inspection, Ultrasonography Test, Differential Scan Calorimetry, Acoustic Emission Test and Firing of weapon by Quality Control of GSF.
- 4.6 Upon successful completion of 4.5, the firm will manufacture twenty more samples for conducting DGQA Trial, User Trial, Life Cycle Test and Environmental Tests.
- 4.7 GSF will bear the cost of testing indicated in Para 4.5 & 4.6
- 4.8 The firm should have required facility and past experience in manufacture of Titanium alloy parts and submit relevant documents to GSF.
- 4.9 The firm should submit a plan for manufacture and inspection of the items.
- 4.10 The firm should submit audited Balance Sheet & Profit & Loss Account for last three financial year.