

Tel. # 0092-51-905529201
 Fax # 0092-51-9271400 & 9314100
 Email: mdexp@pof.gov.pk



(FOREIGN SUPPLIES)

**GOVERNMENT OF PAKISTAN
 PAKISTAN ORDNANCE FACTORIES
 TENDER ENQUIRY**

To,

Dear Sirs,

Reference: Tender Enquiry No **Wah-1800-12-E.I Prop-D.O (X)**, DT. **16th September 2021**

You are requested to submit quotations for the item (s) noted in the Schedule to the Tender. Offers should be sent duly sealed in an envelope. Please note the following instructions for filling the tender:-

1. **SUBMISSION OF TENDER**

1.1 Tenders will be opened at **1100 hours** on **28th October 2021** and must reach at below mentioned address before 30 minutes of opening time. The tender received late will not be entertained. You may witness the opening of the tender if you so desire. If a representative is deputed, he should bring a letter of authority from you.

1.2 Only one tender should be included in one envelope. The outside of the envelope should be inscribed with:-

Tender Enquiry No: **Wah-1800-12-E. I Prop-D.O (X)**

Tender to be opened on: **28th October 2021**

Address as follows: -

Bid Center, CR Section, C-04 Building, POF Wah Cantt

Tele: 0092-51-9055-29201 Fax: 0092-51-9271400

1.3 If envelope does not indicate reference of T.Es and bids received in factories may not be entertained.

1.4 Tender "By Hand" can be delivered at Bid Center, Rabita Hall, POF Wah Cantt.

2. **GENERAL INSTRUCTIONS REGARDING PREPARATION OF QUOTATIONS**

2.1 Case will be processed exactly as per **PPRA Rules 36(d)** in favor of most advantageous bid and Two stage two envelope bidding procedure will be utilized for open competitive bidding. The prices should be filled in column 5 & 6 and delivery date in column 7 of the schedule to this Tender Enquiry. The undertaking should be signed at the bottom of the Schedule which shall form the Quotation. You may use a separate sheet if necessary.

2.2 The bid shall comprise a single sealed package containing two separate sealed envelopes: -

i) **Part I "TECHNICAL PROPOSAL"** It should exclusively give technical details and literatures/brochures of the offered technology / plant, machinery and equipment, validity date, delivery schedule and signed undertaking given of the schedule to this Tender Enquiry. It must not indicate price, costs etc.

ii) **Part II "COMMERCIAL PROPOSAL"** It should indicate the commercial terms e.g. price, terms of payment, mode of payment, mode of supply. Each envelope shall contain separately the "Financial Proposal" and "Technical Proposal" in bold & legible letters.

- iii) Price of the following shall be indicated separately in sealed Financial Proposal";
 - a) Extruded Impregnated Technology Plant
 - b) Sprinkler System
 - c) Solvent Recovery System
 - d) HVAC System
 - e) Control Panel
 - f) Waste Water Treatment System (if any)
 - g) Complete Instrument Air system
 - h) Pres-shipment Inspection
 - i) Training abroad & on site
 - j) Seller expert(s) supervision for installation, commissioning and trial run
 - k) Item wise price of the spares
 - l) Complete Documentation
 - m) Price of 100 kg each of E.I propellant i.e. 7.62 x 51 and 7.62 x 39 mm ammo

- 2.3 The quotation must remain valid for at least **120 days** from the date of opening of tenders.
- 2.4 The quotation should hold good for any reduced or enhanced quantities without notice.
- 2.5 In the event of non-acceptance of offer, intimation may be given to the Tenderers on their request.
- 2.6 Conditional offers or alternative offers are likely to be ignored.
- 2.7 Quotations should be based on F.O.B. The consignment will be shipped through Pakistan National Shipping Corporation (PNSC). In case there is no PNSC service in the country of shipping, please quote on C & F basis. The freight should be indicated separately. Insurance premium should not be included in the quoted price. However, where insurance is considered necessary, advice to that effect should be given in the quotation.
- 2.8 Submission of the offer through an agent in Pakistan should be avoided. In case it is considered inevitable, the agent's quotation must invariably be accompanied by the original proforma invoice from the principals/ manufacturers.
- 2.9 Country of origin and port of shipment to be stated.
- 2.10 The offer of principal must clearly indicate whether the rate quoted is inclusive of agent's commission and if inclusive rate of commission included be specified.
- 2.11 Suppliers will render necessary information regarding hazardous effects on environment, of the materials/products supplied by them, in their quotations and shipping / Dispatch documents.
- 2.12 If the requisite information is not furnished on the T.E form or offer received is not in conformity with the requirement of the T.E such offer shall be ignored.

3. **ACCEPTANCE OF OFFERS**

The purchaser may reject all bids or proposals at any time prior to the acceptance of a bid or proposals, but is not required to justify grounds for its rejection. The purchaser shall incur no liability towards suppliers or contractors who have submitted bids or proposals.

4. **TERMS OF PAYMENT (Negotiable):**

Payment will be made as per following;

- i. 90% payment will be released against presentation of shipping documents and acceptance certificate issued by PSI team.
- ii. Balance 10% payment will be released against the Final Acceptance Certificate, duly signed by the BUYER after the successful installation, commissioning & trial run of the store.

All Bank charges incurred in Pakistan in connection with the establishment of L.C. will be borne by the Purchaser, whereas all Bank charges incurred in connection with drawing of payment including charges for confirmation of L.C. by the advising Bank/Foreign Bank will be borne by the Supplier.

5. **TECHNICAL SUPPORT:**

The supplier shall confirm that after handing over of the plant, there shall be continuing technical support as and when required by the purchaser. In addition, the purchaser shall be kept informed regarding latest advancement in the related technology for further improvement in the process and operation of plant, for a period of 15 years, commencing from the date of final acceptance test.

6. **WARRANTY GUARANTEE:**

- i. The plant and accessories shall be accepted on Supplier's Warranty / Guarantee with regard to quality and quantity subject to these being technically checked / tested where necessary and accounted for on arrival at Consignee's ware-house in presence of supplier's rep (if desired by supplier) at their cost. The supplier shall render Warranty/Guarantee certificate in duplicate to the Purchaser on the enclosed Performa (Annexure-C) as soon as stores have been dispatched / delivered. This Warranty / Guarantee shall be binding on the Supplier for a period of 12 months reckoning from the date of successful final acceptance test of the plant.
- ii. In case the stores on checking/test after receipt at the BUYER's factory are found not conforming strictly to the relevant specification and other particulars, or found broken during transit, the SELLER shall immediately replace the rejected/ broken store by acceptable stores free of cost and without any obligation to the BUYER. Rejected / broken stores shall be disposed by the SELLER under his own arrangements. The SELLER will warrant the good quality of all equipment supplied against all defects or failures due to faulty design, material or workmanship.

7. **PERFORMANCE BOND**

- i. The SELLER will provide a Bank Guarantee to the tune of 10% of FOB value of the contract on the prescribed Performa attached as Annexure 'D' for satisfactory execution of the order. It shall be covered by any Scheduled Bank in Pakistan. The Bank Guarantee shall be endorsed in favour of CMA POFs Wah Cantt. The Bank Guarantee shall be furnished by the SELLER within 45 days from the date of opening of letter of credit. The Bank Guarantee will be **valid for a period of 12 months after the successful final acceptance test of the plant.** If the successful trial run is delayed, the SELLER shall arrange the extension of **Bank Guarantee within 30 days from the date** of amendment of L.C. If the Guarantee is not revalidated, the same is liable to be encashed by the CMA (POFs) Wah Cantt.
- ii. If the SELLER fails to furnish the Bank Guarantee within specified period, the BUYER reserves the right to cancel the contract and has the right to purchase the stores at the risk and expenses of the SELLER.
- iii. In the event of unsatisfactory performance or any breach of the Contract, Bank Guarantee shall be forfeited by the BUYER. The Bank Guarantee will be returned to the SELLER by M.D-Explosives, POFs Wah Cantt on request after its expiry or after satisfactory performance of the contract whichever is earlier.

8. **FAILURE TO SUPPLY THE STORES**

The specified delivery period (time and date of delivery / dispatch of stores) is the essence of the contract. All deliveries must be completed by the specified date(s). In failure to deliver stores within the scheduled time shall have arisen from "Force Majeure" which the Purchaser may admit as reasonable ground for further time, he will allow such additional time (without imposing liquidated demurrage) as he may consider to have been required by the circumstances of the case, of which he will be the sole judge and his decision will be final, otherwise he will be entitled at his option:

- a. "In case of unsupplied portion of the contract and unsatisfactory performance, the contract shall be rescinded by forfeiture of security and guarantee by the authority which approved award of the contract".
- b. "To recover liquidated damages when the government competent purchase officers on behalf of the government is satisfied that the failure to supply the stores within the scheduled delivery period has been for reason within the control of the suppliers and or if the government has suffered loss for reasons of belated delivery these liquidated damages if imposed will be recovered up to the rate of 2% but not less than 1% of the value of unsupplied quantity of the items per month or a part of a month for the period exceeding the original delivery period subject to the provision that the total liquidated damages thus leviable will be not exceed 10% of the total contract value of the particular stores which remained unsupplied either in part or in full."

OR

- c. To withhold any payment due to the supplier until the whole of the stores have been supplied and/ or to direct deduction or recover, where considered necessary.

OR

- d. To repurchase from elsewhere, at the risk and expense of the supplier, other articles of the same or similar description as he thinks fit to make good this default to the extent necessary, by canceling the contract, either wholly or for the unsupplied balance and with/ or without intimation to the supplier who shall be liable for any loss which the purchaser may sustain due to repurchase but shall not be entitled to any gain on repurchase.

9. **"FORCE MAJEURE"**

"Force Majeure" shall mean any event, Act / or other circumstances, not being an event, act or circumstances, under the control of the purchaser or of the supplier. The Supplier shall notify the Purchaser in writing of any such event within 15 days by Fax / Telex / Telegram of its commencement, which is relied upon by the supplier for its failure to comply with its obligation. The Purchaser shall have the right to conduct investigations to satisfy itself about the genuineness of the "Force Majeure" event. Non-availability of raw materials for the manufacture of stores, or of export permit for the export of the contracted stores from the country of its origin, shall not constitute "Force Majeure".

10. **FRUSTRATION**

If by reason of "Force Majeure" any consignment shall not be delivered by the due date, then the delivery period may be extended appropriately for the purpose provided the said consignment shall be ready within four calendar months of the stipulated delivery date. If the said consignment shall not be ready after the lapse of four calendar months as aforementioned, then the Purchaser shall have the right to cancel the contract informing the Supplier of the cancellation in writing. This, however, will not apply to consignments already accepted and delivered according to the terms of this contract. The Supplier will not be entitled to any compensation whatsoever as a result of this cancellation.

11. **SECURITY OF INFORMATION**

The tenderer and his employees must not communicate any information relating to the sale/purchase of stores under this enquiry to any person other than the manufacturer or to any press or agent not authorized in writing by POFs to receive it.

Please return the Schedule to the Tender duly signed by the specified date, alongwith the specifications drawings etc. if any, enclosed herewith - even if you are unable to quote.

12. **WARNING**

In case the firm abstain from making offers or fail to return/acknowledge the tender form by the specified date on three consecutive occasions, no further tender enquiry may be issued to them and their names would liable to be removed from the approved list.

Yours faithfully,



for **PAKISTAN ORDNANCE FACTORIES**

Office Tel. # 0092-51-905529201,

FAX # 0092-51-9271400

E-mail: mdexp@pof.gov.pk

PAKISTAN ORDNANCE FACTORIES

Schedule To Tender Enquiry No **Wah-1800-12-E.I Prop-D.O (X)**,

Dated **16th September 2021** to be opened on **28th October 2021**

1) **Plant & Machinery: -**

Procurement of following machines:-

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Item No.	Description	Unit	Qty.	Price per unit F.O.B	Total Price	Delivery Date
i.	Extruded Impregnated (E.I) Technology Plant for Manufacturing of High Ballistic Performance Single Base Extruded Propellants	No	01			
ii	Sprinkler System					
iii	Solvent Recovery System					
iv	HVAC System					
v	Control Panel					
vi	Waste Water Treatment System (if any)					
vii	Complete Instrument Air system					
viii	Pres-shipment Inspection					
ix	Training abroad & on site					
x	Seller expert(s) supervision for installation, commissioning and trial run					
xi	Item wise price of the spares					
xii	Complete Documentation					
xiii	Price of 100 kg each of E.I propellant i.e. 7.62 x 51 and 7.62 x 39 mm ammo					

2) **Special Conditions:**

- i) Chinese firms can quote in Chinese currency i.e. Yuan.
- ii) For comparison of bids quoted in different currencies, the price will be converted into single currency i.e. Pak Rupees.
- iii) The rate of exchange shall be the selling rate prevailing on the opening of bids (notified by State Bank of Pakistan on that day).
- iv) The store must be protected adequately and appropriately to the mode of dispatch against damage from environmental effects, water or other substances during the sea voyage and overland journey to withstand the rough handling involved in transit and provide proper preservation of materials while held in storage by the consignee.
- v) **EXPORT PERMIT**
Offers of only those firms will be entertained who will confirm the availability of export permit from their respective government.
- vi) **REFERENCE LIST**
The Seller shall provide list of similar plant & machinery which has been provided to different customers and which are still in operational condition. The said list shall explicitly mention Make, Model and country of origin of the said machines.

3) **Undertaking**

Should our offer be accepted, we hereby undertake to supply the stores/render the services contracted on the basis of General Conditions of Contract embodied in Form POF 1282, and to deposit the performance bond within the prescribed time, failing which it will constitute a breach of contract, and POF will have the right to purchase the stores/services elsewhere at our risk and cost.

Place _____

Date _____

Position: _____

Signature of the Tenderer: _____

Name: _____

Address: _____

Income Tax G.I.R.No. _____

Annexure-A**DETAILED TECHNICAL SPECIFICATION**

1. **NOMENCLATURE**
- i. Extruded Impregnated (E.I) Technology Plant for Manufacturing of High Ballistic Performance Single Base Extruded Propellants.
 - ii. Capacity:
2.7 M.T / day & 600 M.T/year (Based on 220 Working Days)

2. **QUANTITY** 01 off

3. **MAIN FEATURES**

3.1 **General Requirement**

- i. Plant must comprise of control panel, sprinkling system, solvent recovery system, storage tanks, waste water treatment system (if required), safety devices, HVAC System and all other essential accessories to produce energetic deterrent coated E.I. propellants.
- ii. The offered production facility would be integrated with our existing single base extruded propellant production line.

3.2. **Existing Plant Capacity**

- i. Total Production Capacity : 600 M.Ton / year @ 220 Working Days / year
- ii. The process flow diagram of existing production line is attached as **Annex-B.**

3.3 **Existing Ballistic Parameters**

Sr. #	Caliber	Ch. Wt.	Velocity	Pressure
a.	7.62 x 51 mm (Bullet weight = 150 grain)	43 – 46 grain	2660 ± 30 f/s	≤ 20.3 TSI
b.	7.62 x 39 mm	1.6 ± 0.15 gram	732 - 747 m/s	≤ 2,800 kg/cm ²
c.	9 x 19 mm	5.5 – 6.4 grain	395 ± 25 m/s	≤ 265 MPa
d.	20 mm	40 ± 2 gram	3600 ± 100 m/s	≤ 60,500 PSI
e.	23 mm	33 ± 3 gram	720 ± 10 m/s	≤ 3,000 kg/cm ²
f.	30 mm	100 gram approx.	800 ± 10 m/s	17– 21 TSI
g.	12 Bore Shot Gun	1.7 ± 0.20 gram	1000 ± 1250 f/s	2 – 3 TSI

3.4 **Required Ballistic Parameters**

The required ballistic parameters of E.I Propellants commensurating with desired plant capacity of 600.0 M.T / Annum are as under;

Sr. #	Caliber	Ch. Wt.	Velocity	Pressure
a.	7.62 x 51 mm (Bullet weight = 150 grain)	43 – 46 grain	> 2750 f/s	≤ 20.3 TSI
b.	7.62 x 39 mm	1.6 ± 0.15 gram	> 760 m/s	≤ 2,700 kg/cm ²
c.	9 x 19 mm	5.5 – 6.4 grain	> 400 m/s	≤ 265 MPa
d.	20 mm	40 ± 2 gram	> 3700 f/s	≤ 60,500 PSI
e.	23 mm	33 ± 3 gram	> 730 m/s	≤ 3,000 kg/cm ²
f.	30 mm	100 gram approx.	> 810 m/s	17– 21 TSI
g.	12 Bore Shot Gun	1.7 ± 0.20 gram	> 1250 f/s	2 – 3 TSI

4. **EXISTING FACILITIES**

- i. Nitrocellulose manufacturing plant.
- ii. Nitroglycerine production.
- iii. Physico-Chemical Laboratory for physical and chemical analysis of raw materials, intermediate and finished products. If any special testing is required, equipment and testing procedure for the same shall be included in the scope of supply.
- iv. Ballistic Laboratory for determining the performance of propellants which include Closed Vessel Testing & Ballistic Proof Range.

5. **RAW MATERIAL AND UTILITY CONSUMPTION**

- i. Supplier shall provide complete specifications & testing methods of raw materials required for E.I Propellants.
- ii. The supplier shall clearly indicate consumption of raw materials and utilities per M.Ton of finished products.

6. **SCOPE OF SUPPLY**

6.1 **Hardware (Mechanical & Electrical)**

The following hardware shall be included in the supply;

- i. Extruded Impregnated Technology Plant (for manufacturing of High Ballistic Performance Single Base Extruded Propellants) complete in all aspects including all process, safety and utility equipment to produce propellants as per detail given in points # 1 (ii) and 3.4 above.
- ii. Complete Solvent Recovery System.
- iii. Waste Water Treatment System (if required). Its price shall be quoted separately in the commercial offer.
- iv. Complete HVAC System alongwith related accessories to maintain temperature (25 - 30°C) as per safe process requirement.
- v. Transfer pumps and blowers including one standby for each installed, complete with motor, starter and all necessary protections.
- vi. Complete Instrument air system including air compressors, oil & moisture separators and dryers to supply quality air to instruments as per ISA standards and minimum dew point of -30°C (Optional).
- vii. Control centre for all motors, stop/start stations with ampere meters, perforated cable trays for power & instrumentation and mounting accessories.
- viii. All Electrical equipment to be installed in hazardous area shall be conforming to Ex, Exi, minimum IP65.
- ix. Flame proof lights with fittings to provide sufficient illumination inside and outside buildings. Lightning arrestors & static charge protection equipment may also be included.
- x. Consumables required during installation of machinery.
- xi. Flame proof cable for power, lighting, water sprinkler system & instrumentation along with mounting accessories.
- xii. Erection materials such as steel structure, piping, fittings, valves, anchor bolts alongwith its chemical for supporting entire machinery.
- xiii. Selection of material for construction of equipment and machinery included in the scope of supply should commensurate with the safety standards and durability.
- xiv. Ferrous – Ferrous contact must be avoided to ensure safety.
- xv. Noise level of the machinery included in the scope of supply shall be less than 75 db.
- xvi. Any other special mechanical, electrical & instrument items which are not mentioned but essential for successful installation, commissioning and trial run must be included in the scope of supply.

- xvii. After contract agreement, firm will provide 100kg each of Extruded Impregnated Propellant for 7.62 x 51mm and 7.62 x 39mm ammo to ascertain quality of the same. Price of the same shall be mentioned separately with commercial offer.

6.2 **Safety and Warning Systems:**

Fire Detection & Suppression System

Supply of fire detection and suppression system in hazardous area with all components at least SIL2 rated including all essential hardware including pipes, cables & trays, sensors and accessories. The system shall be capable to detect Fire within 30 milliseconds and consequently actuate water sprinkling. Detail is as under;

a. **Fire control Panel**

Capable to handle all fire sensors automatically and manually, inputs and outputs included with logging and reporting facility printable as and when required on real time basis. Output of panel shall be capable to drive all sprinkler solenoids and acoustic alarm.

b. **Fire Sensors**

- i. Suitable number of Fire Sensors to cover whole risk area as 100%.
- ii. Sensors shall be IR3 or UV/IR. Fire sensing shall be within 30 milliseconds maximum.

c. **Pressurized Water system.**

It shall be designed with wet pipe having solenoids at end of pipe before sprinkler and flooding nozzles. Water system shall include;

- i. Suitable capacity water tank at rated pressure minimum 8 bar with visual water level indicator
- ii. Electric fire pump
- iii. Diesel Engine driven fire pump
- iv. Jockey pump to keep up water level in pressurized tank.
- v. Air compressor to maintain system pressure including water tank
- vi. Supply of fire system shall include all required hardware and accessories.

6.3. **Instrumentation Equipment and Control System:**

- i. Plant shall be equipped comprehensively (where required) with measuring and control system with record of all essential process parameters.
- ii. Measuring and control instruments must be accompanied with master calibration equipment.
- iii. All instruments shall be Ex and or Exi and (minimum IP 67) with 4 – 20 mA signal.
- iv. Auto & manual control system to be adopted for main processes and auxiliary units with complete control & command in both auto & manual modes.
- v. Plant shall be equipped with alarm system to indicate the malfunctioning of instruments / equipment.
- vi. There shall be no password at any level of application on any equipment and system.
- vii. The programming language shall be in Ladder or FBD in English at all levels.

7. **SPARES:**

a. **Mechanical**

Two years essential spares for smooth functioning of provided technology / equipment such as pumps, blowers, gear boxes, valves, fittings, bearings, HVAC etc. Item wise detail must be included in the scope of supply. However, following electrical & instrument related spares are essentially required;

b. Electrical & Instrument

i.	Field devices including controllers, sensors push buttons, limit switches, proxy sensors, barriers, contactors and overloads installed in panels.	01 against each 03 installed
ii.	PCB for control panels	01 against each installed
iii.	Fire detection, sprinkler with all type of sensors, controllers, PCBs, solenoid valves.	01 against each 02 installed

8. AVAILABLE UTILITIES AT SITE:

Following utilities are available at site:

- i. Electricity 380 – 400 volts, 50Hz three phase (100 Amps available).
- ii. Electricity 220 – 230 volts, 50Hz single phase(100 Amps available).
- iii. Raw Water at 1.5 bar_g.
- iv. Steam at 1.5 bar_g @ 0.6 Ton / Hr.
- v. Compressed Air 3 bar_g without dryer.

9. CLIMATIC CONDITIONS AT SITE:

- i. Temperature

Winter	=	-3 to 20°C
Summer	=	30 to 50°C
- ii. Atmospheric relative humidity = 25 to 90%
- iii. Average annual rain fall = 450 mm
- iv. Altitude above sea level = 1504.50 Ft.
- v. Earthquake Value = 7.5 on Richter scale

10. BATTERY LIMIT:

Battery limit means one meter outside the wall of the building up to which the purchaser will provide the required utilities / services. The purchaser will ensure to terminate all pipes with flanges at Zero level of each building.

11. DOCUMENTATION:

The supplier will be required to furnish all relevant technical data and drawings for design and complete technology transfer (4 copies each in English language) in hard and soft form including the following;

- i. Detailed Drawings & Specifications of complete Plant & Equipment.
- ii. P & I Drawings, Equipment Layout and Schematic Diagrams.
- iii. Complete layout showing safety installations, electrical installations, utilities, humidification & temperature controlling system.
- iv. Detailed Erection workshop drawings.
- v. Process manuals for sequence wise start up, shut down & trouble shooting of the plant equipment and related accessories.
- vi. Complete Laboratory testing methods of raw materials and products
- vii. Specifications of materials not included in the supplies but necessary for integration of the offered plant and machinery.
- viii. Maintenance and services manuals covering trouble shooting and schedule maintenance.
- ix. Complete safety manuals regarding operation & maintenance.
- x. Configuration, programming and calibration manuals.

- xi. All programs and configurations fed to any instrument, VFD / soft starter and PLC will be supplied in soft and hard copy on Flash Drive / DVD with no restrictions.
- xii. All engineering details, data and tables involved in calibration and process calculations shall be provided.
- xiii. Trouble shooting manuals for all instruments, electrical and mechanical equipment.
- xiv. The supplier shall provide the civil workshop drawings within two months after finalization of the contract.
- xv. Detailed final civil construction drawings (workshop Drawings) required for building construction including Foundation Plans with Load Values for the equipment to be installed.
- xvi. The purchaser will construct the building as per civil workshop drawings provided by the supplier.

12. **PRE-SHIPMENT INSPECTION (PSI) AND TRAINING:**

- a. The store shall be new, free from any defects and shall conform to the requisite specification. Pre-shipment Inspection team will be comprised of 04 members. Duration of PSI & Training shall be 10 working days (excluding journey period). All expenditures of the PSI team i.e. boarding, lodging, internal traveling, return air tickets and daily allowances @ 30% of the admissible amount for the visiting team will be borne by the supplier.
- b. Inspection facilities for the plant and related accessories such as tools, test equipment, instrument etc will be provided by supplier in accordance with the relevant specifications.
- c. The supplier will arrange Pre-shipment Inspection & Training at their site / site of their sub contractors. The Pre-shipment Inspection will take place in following manner;
 - i. The team will inspect the unit in respect of material of construction, electrical & instrumentation specifications.
 - ii. Spares quality and quantity.
 - iii. Verification that the equipment conforms to the ordered specifications. The team will check the bill of details, assembly protocols and test certificates of the relevant items.
- d. During this period, the seller will also train buyer team regarding operation and maintenance of the plant.

13. **TRAINING ON SITE**

During the stay of supplier engineers for installation, commissioning and final acceptance test of Plant & related accessories at POF site, they will train the purchaser's concerned production, maintenance, electrical & instrument departments personnel. Number of trainees will be 10 maximum for 02 week duration.

14. **ERECTION AND COMMISSIONING:**

- i. The purchaser under the working supervision of the supplier's engineers / technicians shall erect the plant and other related equipment.
- ii. The plant will be commissioned by supplier's engineers. Purchaser shall provide the required number of operators / technicians for commissioning.
- iii. The supplier has to indicate the total man-weeks of his engineers / technicians required for the erection, commissioning and final acceptance test of the plant. Terms and conditions are to be stated clearly. All expenses including boarding, lodging, traveling and daily allowance of the supplier's engineers / technicians shall be borne by the supplier. However, local transport will be arranged by the purchaser.
- iv. The supplier shall provide the time schedule for completion of the project.
- v. The supplier shall replenish the quantity of spares used during installation, commissioning and final acceptance test.

15. **FINAL ACCEPTANCE TEST (FAT):**

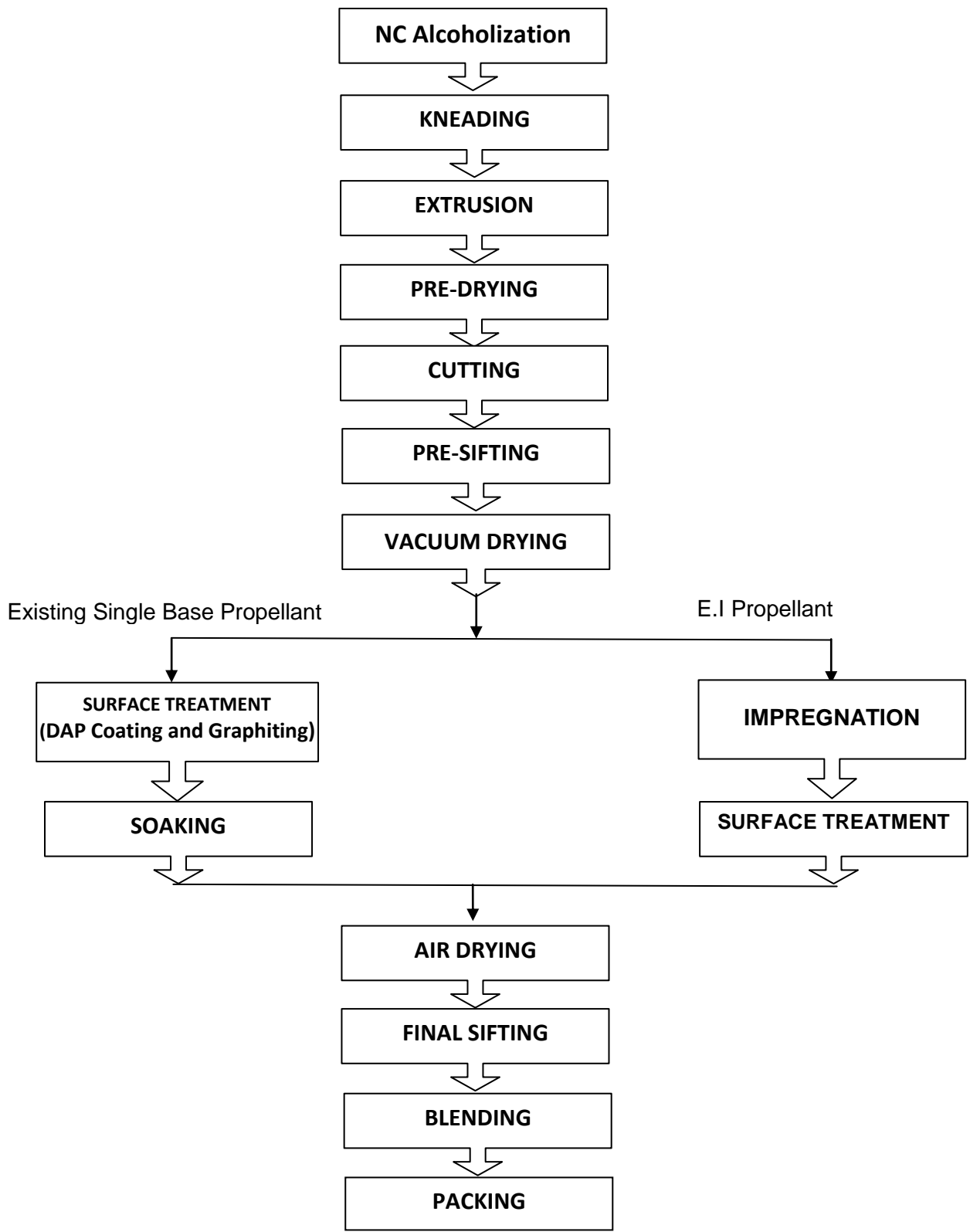
- i. After successful installation and commissioning, supplier will be responsible for continuous run of the plant on round the clock basis to produce following quantities:

Sr. #	Caliber	Weight (M.Ton)
a	7.62 x 51 mm (150 grain bullet weight)	10
b	7.62 x 39 mm	6
c	9 x 19 mm	2
d	NC – 1111 (for sports / hunting Ammo)	2

- ii. The supplier will be responsible to ensure quantity and quality of the products as mentioned in point # 1(ii) and point # 3.4 respectively. In case of any deficiency in terms of quality and quantity of products, all related expenditures to fulfill commitment shall be borne by the supplier.
- iii. The E.I technology will be accepted after confirmation of qualitative and quantitative satisfaction as per Point # 1(ii) and point # 3.4 respectively.
- iv. Apart from the available raw materials/ semi-finished propellant, additional materials required for commissioning and final acceptance test, will be provided by the supplier. Besides this, additional materials sufficient for 200 M.Ton of E.I Propellant Production may also be included in the scope of supply.

SINGLE BASE PROPELLANT

PROCESS FLOW DIAGRAM



WARRANTY / GUARANTEE CERTIFICATE

Firm's Name _____

Contract No. _____ Date _____

1. We hereby guarantee that the goods supplied against the above contract are in all respect in accordance with the relevant specifications and terms of the contract and that the materials used, whether or not of our manufacture are in accordance with the latest approved standard specifications complete, are of good workmanship/quality throughout, and that we shall replace free of cost, every article or part thereof which before use or in use, shall be found defective, or not within the limits and tolerance of specification requirements, or in any way not in accordance with the terms of the contract.
2. In case of our failure to replace the defective stores free of cost within the period specified by the Purchaser we will refund the relevant cost.
3. The Warranty / Guarantee will remain valid for **12 months** after successful trial run of the Plant.

Signature _____

Name _____

Status in the Firm _____

Dated _____

**BANK GUARANTEE FOR PERFORMANCE ON
JUDICIAL STAMP PAPER OF Rs.100/- OR AS
SUITABLE TO THE ACCOUNT OF BG.**

- i) Contract No. _____ Date _____
- ii) Name of Firm/Contractor _____
- iii) Address of Firm/Contractor _____
- iv) Name of Guarantor _____
- v) Address of Guarantor _____
- vi) Amount of Guarantee Rs. _____
(_____)
(in Words)
- vii) Date of Expiry of Guarantee _____

To:

The President of the Islamic Republic of Pakistan
Through the **CMA POF WAH CANTT.**

Sir,

1. Whereas your good self have entered into Contract No. _____ dated _____ with Messrs _____
(Full Name and Address)
_____ hereinafter referred to as our customer and that one of the conditions of the contract is the submission of unconditional Bank Guarantee by our customer to your good self for a sum of Rs. _____ Rupees / FE (as applicable) _____
2. In compliance with this stipulation of the contract, we hereby agree and undertake as under:
- a) To pay you unconditionally on demand and / or without any reference to our customer and amount not exceeding the sum of Rs. _____ Rupees or FE (as applicable) _____ as which be mentioned in your written Demand Notice.
- b) To keep this Guarantee in force till _____
- c) That the validity of this Bank Guarantee shall be kept one clear year ahead of the original/extended delivery period or the warrantee of the stores which so ever is later in duration on receipt of information from our customer i.e. M/s _____ or from your office. Claim, if any must be duly received by us on or before this day. Our liability under this Bank Guarantee shall cease on the closing or banking hours on the last date of the validity of this bank Guarantee. Claim received thereafter shall not be entertained by us whether you suffer a loss or not. On receipt of payment under this guarantee, this document i.e. Bank Guarantee must be clearly cancelled, discharged and returned to us.
- d) That we shall inform your office regarding termination of the validity of this Bank Guarantee one clear month before the actual expiry date of this Guarantee.

- e) That with the consent of our customer you may amend/alter any term/clause of the contract or add/delete any term/clause to/from this contract without making any reference to us. We do not reserve any right to receive any such amendment/ alternation or addition/deletion provided such like actions do not increase our monetary liability under this Bank Guarantee, which shall be limited only to Rs. _____ (Rupees _____).
- f) That the Bank Guarantee herein before given shall not be affected by any change in the constitution of the Bank or Customer/Seller or Vendor.
- g) That this is an unconditional Bank Guarantee, which shall be encashed on sight on presentation without any reference to our Customer/Seller or vendor.

Guarantor

Dated: _____

Bank Seal and Signatures