CONTRACTOR SUBMISSION PACKET

Project: Automated Fluidized Bed Mixer Facility Modernization
Agency: Pine Bluff Arsenal (PBA)

Reference: CSO under 10 U.S.C. § 4022 and DFARS Subpart 212.70

COVER PAGE & ADMINISTRATIVE DATA

- **Company Name:**
- **Company Address:**
- **Point of Contact:**
- **CAGE Code / UEI:**
- **Submission Date:**
- **Submission Phase:**

Security & Submission Reminder: All submissions must be **UNCLASSIFIED** and pre-scanned for malicious code. The maximum allowable email size is 10MB. Submissions must be in Word/ PDF/ Power point of a max of 5-page paper or 15-slide deck. Do not submit files via .zip format or third-party cloud links.

PART 1: PHASE 1 - SOLUTION BRIEF

(Instructions: This section must be kept strictly to 5 pages or less if submitted as a paper, or a maximum of 15 slides if submitted as a presentation. Align your answers with the fields below.)

1.1 Description of Solution

Provide a concise description of your proposed automated, high-precision mixing, granulation, and drying fluidized bed mixer system (800 to 1200 lb batch capacity) to replace the 25+ year-old legacy system.

1.2 Implementation Approach

Outline how the proposed system will be integrated into Pine Bluff Arsenal's operational framework. Explicitly detail how it interfaces with existing facility power and environmental controls without requiring a complete building overhaul.

1.3 Capability Availability & Maturity

Describe the current developmental, lifecycle, or commercial readiness state of your proposed system. Attach or integrate your commercial specification sheet in Section 1.8.

1.4 Scalability

Describe how your solution scales to support agile, end-to-end sustainable growth and long-term manufacturing modernization at PBA.

1.5 Benefits

State the clear advantages of your proposed solution. At a minimum, detail how your system will achieve:

- *A minimum 30% throughput improvement over legacy systems.*
- *Sub-millimeter granulation consistency.*
- *95% operational availability and 95% repeatability.*
- *Raw material weighing accuracy within $\pm 1.5\%$.*

1.6 Key Challenges, Risks & Mitigation Strategies

Identify the primary technical and environmental challenges of this deployment, and your mitigation strategies. You must specifically address:

1. **Humidity Control:** How the system will process highly hygroscopic materials (sugar and potassium chlorate) without absorbing humidity in environments averaging 72% to 95% daily summer humidity.
2. **De-clumping:** Your approach to potassium chlorate de-clumping and particle size reduction.

3. **Particulate Containment:** Minimizing particulates released into the surrounding air during transferring and weighing.
4. **Safety & Fire Mitigation:** Automated "fail-safe" shutdown protocols for temperature/pressure spikes, a High-Speed Fire Detection and Suppression System, and automated venting for closed systems (venting completely without deflagrating in the event of a fire).

1.7 Chemical Compatibility & Hazardous Environment Compliance

The proposed equipment must be compatible with the following chemicals and rated for **Class I & II, Division 1** *hazardous environments where noted. Please complete the compliance table below.*

#	Chemical Category & Name	Spec / Standard Reference	Class I & II, Div 1 Compliant? (Y/N)	Contractor Compatibility & Engineering Comments
-	**DYES**			
1	Dye, Red III	MIL-DTL-3284	[ ] Yes [ ] No	[Insert Comments]
2	Dye, Violet IV	MIL-DTL-3691	[ ] Yes [ ] No	[Insert Comments]
3	Dye, Solvent Yellow 33	MIL-DTL-51485	[ ] Yes [ ] No	[Insert Comments]
4	Dye, Solvent Green 3	MIL-DTL-3277	[ ] Yes [ ] No	[Insert Comments]
-	**OXIDIZERS**			
5	Potassium Chlorate	MIL-P-150 / MIL-DTL-150	[ ] Yes [ ] No	[Insert Comments]
-	**FUELS**			
6	Sulfur, Grade E	MIL-S-487	[ ] Yes [ ] No	[Insert Comments]
7	Sugar	A-A-20135 (Type 1 Style C/Class D)	[ ] Yes [ ] No	[Insert Comments]

-	**COOLANTS & MODIFIERS**			
8	Sodium Bicarbonate, Class 1	A-A-374	[ ] Yes [ ] No	[Insert Comments]
9	Magnesium Carbonate	MIL-M-11361 / MIL-DTL-11361	[ ] Yes [ ] No	[Insert Comments]
10	Terephthalic Acid (TA)	Drawing/Spec 13-19-824	[ ] Yes [ ] No	[Insert Comments]
-	**BINDERS & PROCESS AIDS**			
11	Polyvinyl Alcohol	MIL-P-265	[ ] Yes [ ] No	[Insert Comments]
12	Stearic Acid	MIL-S-271	[ ] Yes [ ] No	[Insert Comments]
13	Nitrocellulose	MIL-DTL-244	[ ] Yes [ ] No	[Insert Comments]
14	Pentaerythritol (PE)	Drawing/Spec 36-1-317	[ ] Yes [ ] No	[Insert Comments]
-	**SOLVENTS**			
15	Acetone	ASTM D329	[ ] Yes [ ] No	[Insert Comments]
-	**ADDITIVES & FLOW AGENTS**			
16	Tricalcium Phosphate	Commercial	[ ] Yes [ ] No	[Insert Comments]

1.8 Commercial Specification Sheet

Attach or paste your standard commercial specification sheet detailing the technical limits and physical dimensions of the proposed system below.

1.9 Pricing Model, Term Duration & ROM Pricing

Provide a high-level financial overview to establish financial feasibility under FAR Part 12 (Commercial Items).

- **Term Duration (Anticipated Project Lifecycle):** [Insert Months/Years]
- **Rough Order of Magnitude (ROM) Pricing:**
    - *Equipment & Hardware:* $[Insert ROM Price]
    - *Integration, Engineering, & Setup:* $[Insert ROM Price]
    - *Estimated Total ROM:* **$[Insert Total ROM Price]**
- **Other Cost / Price Considerations / Proposed Business Model:** *(e.g., procurement model, warranty programs, service level agreements)*

PART 2: PHASE 3 - FULL QUOTE

(Instructions: Complete this section ONLY if formally invited by the Contracting Officer following Phase 2. This section serves as the baseline for negotiations of a Firm-Fixed-Price (FFP).)

2.1 Statement of Work (SOW)

Provide a detailed, draft Statement of Work. Use the following structured outline:

1. **Background & Scope:**
2. **Contractor Responsibilities:**
3. **Government Responsibilities:**
4. **Site Delivery, Installation, and Commissioning:**
5. **Training and Handover:**

2.2 Detailed Technical Specifications & Engineering Drawings

Provide comprehensive engineering evidence to verify structural integrity and safety system performance.

- **Engineering Drawings Reference:**

- **Regulatory Compliance Matrix:**
- **Safety Venting Schematics:**

2.3 Firm-Fixed-Price (FFP) Detailed Breakout

Provide a fully transparent, granular cost breakout for the entire program.

Item ID	Description	Unit Price	Qty	Total Price (USD)
1.0	**Fluidized Bed Mixer Core Equipment** (with PLC and integrated sensors)	$	?	$
2.0	**De-clumping, Weighing, & Transfer Sub-systems**	$	?	$
3.0	**High-Speed Fire Detection & Suppression System**	$	?	$
4.0	**Transportation & Logistics** (Specialized freight to PBA)	$	?	$
5.0	**On-site Installation, Integration, & Commissioning**	$	?	$
6.0	**On-site Operator & Maintenance Training**	$	?	$
7.0	**Spare Parts Kit & Maintenance Support Terms (optional)**	$	?	$
-	**TOTAL FIRM-FIXED-PRICE (FFP)**			**$**

2.4 Execution, Schedule, and Logistics Plan

Outline your logistics and schedule parameters for delivery to Pine Bluff Arsenal.

- **Manufacturing/Procurement Lead Times:**
- **Transportation & Site Delivery Plan:**
- **Site Preparation Requirements:**
- **Adherence to Department of the Army/DoW Security Protocols:**
- **Milestone Schedule:**