

Statement of Objectives

03 August 2026

1. AUTHORITY

This CSO is issued under 10 U.S.C. § 4022 and DFARS Subpart 212.70, allowing the Department of War (DoW) to acquire innovative commercial items, technologies, or services through competitive procedures outside traditional FAR-based solicitations. All solutions will be treated as commercial items under FAR Part 12. Award may be executed as a Firm-Fixed-Price (FFP) contract(s).

2. The "Area of Interest" (AOI) / Problem Statement

The Pine Bluff Arsenal (PBA) seeks an automated, high-precision mixing, granulation, and drying system with material de-clumping, weighing, and transferring solutions to modernize the production of colored smoke energetics. Current legacy systems are 25+ years old, experience structural fatigue, utilize obsolete PLC controls, and have a manual material handling system. The desired solution must improve throughput by at least 30%, ensure sub-millimeter granulation consistency, and integrate modern safety sensors to mitigate fire/explosion risks during the mixing of volatile chemical compounds.

3. Solution Parameters

- High-precision Mixing, Granulation, and Drying system: Must be a fluidized bed mixer with the capable range of creating 800 to 1200lb mix batches.
- Material De-clumping, Weighing, and Transferring: Systems for all materials must minimize particulates released into the surrounding air. Sugar and potassium chlorate are both highly hygroscopic materials; the systems handling these materials must minimize clumping and weight gain due to atmospheric humidity. This must be done in an environment where the average daily humidity in the summer is around 72% and can reach as high as 95%. The system for the potassium chlorate must include de-clumping and particle size reduction.
- Reliability: System must achieve 95% operational availability.
- Repeatability: The System must be able to provide a 95% repeatability.
- Accuracy: System must be capable of an accuracy of $\pm 1.5\%$ of raw material weights
- The Manufacturing and delivery process shall maintain a maximum

Re-blend Rate of five percent (5.0%) during each Production Campaign

Calculation of Re-blend Rate. The "Re-blend Rate" shall be calculated as follows:

$$\dot{R} = \left(\frac{N_R}{N_T} \right) \times 100$$

Where:

$\dot{R}$ is the reblend rate.

N_R is the number of Re-blends in the campaign

and,

N_T is the total number of batches in the campaign

- Safety: Automated "fail-safe" shutdown protocols triggered by temperature or pressure spikes and include a High-Speed Fire Detection and Suppression System, and automated venting for closed systems. The mixer must be able to fully vent without deflagrating in the event of a fire.
- Integration: Must fit within an existing facility and interface with existing facility power and environmental controls without requiring a complete building overhaul.
- Chemicals to be weighed and mixed:

Dyes

1. Dye, Red III: MIL-DTL-3284
2. Dye, Violet IV: MIL-DTL-3691
3. Dye, Solvent Yellow 33: MIL-DTL-51485
4. Dye, Solvent Green 3: MIL-DTL-3277

Oxidizers

5. Potassium Chlorate: MIL-P-150 (Grade B / Grade B, Class 7) or MIL-DTL-150 (Grade B, Class 7)

Fuels

6. Sulfur, Grade E: MIL-S-487
7. Sugar: Type 1, Style C (A-A-20135) or Type 1, Class D (A-A-20135)

Coolants and Burn Rate Modifiers

8. Sodium Bicarbonate, Class 1: A-A-374
9. Magnesium Carbonate: MIL-M-11361 (Grade B), MIL-DTL-11361
10. Terephthalic Acid (TA): Drawing/Spec 13-19-824

Binders, Carbon Sources, and Processing Aids

11. Polyvinyl Alcohol: MIL-P-265
12. Stearic Acid: MIL-S-271
13. Nitrocellulose: MIL-DTL-244
14. Pentaerythritol (PE): Drawing/Spec 36-1-317

Additives and Flow Agents

15. Tricalcium Phosphate

- Much of the equipment will need to be rated for Class II Div 1 F and G environments.

Phase	Requirement	Goal
Phase 1: Solution Brief	5-page paper or 15-slide deck.	High-level technical fit and company viability.
Phase 2: The Pitch	30-minute virtual or in-person presentation.	Deep dive into technical approach and team expertise.
Phase 3: Quote	Full Statement of Work (SOW) and Pricing.	Site visit, work out scope, and final negotiations and award of the Prototype.

Phase 1: Solution Brief

Vendors will submit a concise paper (5 pages or less) or a 15-slide presentation detailing their technical approach and quoted business/acquisition model along with commercial specification sheet. Topics that need to be covered should include description of solution, implementation approach, capability availability, scalability, benefits, challenges, key deliverables / milestones, pricing model / term duration. An emphasis should be put on processing the sugar and potassium chlorate without absorbing humidity. The government will evaluate these submissions to determine if the quoted solution merits further consideration. Only vendors whose Phase 1 submissions are deemed highly viable will be invited to participate in Phase 2.

Phase 2: The Pitch (By Invitation Only)

Upon notification from the Contracting Officer, selected quoter(s) will have fifteen (15) calendar days to prepare an approximate 30-min presentation and answer questions on the quoted solutions.

Phase 3: Full Quote Request (By Invitation Only)

If the Government determines a Phase 2 Solution Summary has merit, the vendor will be formally invited to a site visit to Pine Bluff Arsenal; then to submit a Phase 3 Full Quote. The Phase 3 Quote serves as the baseline for negotiations. A Phase 3 request will require comprehensive documentation to support a contract award, including but not limited to:

- **Statement of Work (SOW):** The Quoter shall submit SOW detailing the delivery, installation, compliance mechanisms, maintenance responsibilities (if applicable), and execution of the quoted acquisition model
- **Pricing Detail:** A Firm-Fixed Price (FFP) submission detailing granular pricing for equipment, delivery, installation, and any specific relevant terms.
- **Detailed Technical Specifications:** Engineering drawings proving material standards, dimensions, type, safety features, handling, and specialized options.

Logistics Plan: Lead Times, transportation, site delivery, and setup procedures to Pine Bluff Arsenal. During all phases, the Government reserves the right to negotiate the terms of the scope, Intellectual Property/Data Rights, and final Price prior to executing an award.

4. Selection Criteria

Phases 1 and 2 will be evaluated holistically based on the following primary criteria:

- **Technical Merit and Innovation:** The Government will assess the technical viability of the quoted solution through review of the submitted briefs and commercial specification sheets. Evaluators will verify the solution's ability to meet the minimum parameters outlined in Section 3. Furthermore, the Government will evaluate the innovative nature of the quoted commercial acquisition/business model and its effectiveness.
- **Importance to Agency Programs:** The Government will evaluate the potential impact of the solution on PBA's operational readiness along with the safety and environmental compliance posture.
- **Financial Feasibility:** The Government will review the submitted Rough Order of Magnitude (ROM) to determine if the estimated costs are realistic for the quoted technical approach, and whether sufficient funding is available, or likely to become available, to execute the quoted business model.

Phase 3 Full Quoted Requests will be evaluated across the following primary criteria:

- **Technical Approach and Risk:** The Government will evaluate the vendor's draft SOW to assess how well it defines the scope of work, delineates Government versus Contractor responsibilities, and meets the overarching objectives of the problem statement. Additionally, the Government will review the submitted engineering specifications and regulatory compliance matrix to ensure structural integrity and the efficacy

of the proposed safety/monitoring mechanisms.

- **Price Reasonableness:** The Government will evaluate the initial Firm-Fixed-Price (FFP) submission. Through evaluation and potential negotiation, the Contracting Officer must determine that the final agreed-upon prices are fair and reasonable pursuant to applicable commercial pricing guidelines. The Government will evaluate the total lifecycle cost and the specific mechanics of ownership transfer as needed.
- **Execution, Schedule, and Logistics:** The Government will assess the vendor's proposed execution and logistics plan. This includes evaluating the feasibility of the proposed delivery timeline, site preparation requirements, and adherence to DoW installation security protocols.

SELECTION AND AWARD The Government will notify vendors in writing whether their Phase 1 submission was selected to proceed to Phase 2. The same will be done from Phase 2 to 3. The decision to select a Solution Summary for Phase 3, or to award a contract following Phase 3, is at the sole discretion of the Government.

The Government reserves the right to award a contract to the vendor(s) whose proposal offers the greatest overall value and innovative benefit to PBA, price and other factors considered. Additionally, the Government reserves the flexibility to make multiple awards or no award under this CSO.

5. SUBMISSION INFORMATION

Points of Contact:

- **Primary:** Ashley Testrake, Ashley.e.testrake.civ@army.mil
- **Secondary:** Michelle Pleasant, michelle.m.pleasant.civ@army.mil

Questions regarding this CSO must be submitted via email no later than 15:00 CST on 31 August 2026.

Phase 1 Solution Summary must be submitted electronically via email to the Primary and Secondary Points of Contact listed in Section 6. Submissions must be in PDF, Word, or PowerPoint format. The maximum allowable email size is 10MB. Do not submit files via .zip format or third-party cloud links.

Security Warning: All submissions shall be UNCLASSIFIED and must be pre-scanned for malicious code. Files found to contain viruses or that are corrupted will be deemed non-responsive. Army Contracting Command - Rock Island is not responsible for unreadable files.