AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
	1		14

2. AMENDMENT/MODIFICATION	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUISITION NUMBER	5. PROJECT NUMBER *(If applicable)*
0036	03/18/2026		

6. ISSUED BY	CODE	7. ADMINISTERED BY *(If other than Item 6)*	CODE
DLA Contracting Services Office - Philadelphia 700 Robbins Ave. Philadelphia, PA 19111 Attn: R&D CONTRACTING TEAM	SP4701	Same as Block 6	

8. NAME AND ADDRESS OF CONTRACTOR *(Number, street, county, State and ZIP Code)*

CODE | FACILITY CODE

(X)

☒ 9A. AMENDMENT OF SOLICITATION NUMBER: BAA0001-22

9B. DATED *(SEE ITEM 11)*: 06/13/2022

☐ 10A. MODIFICATION OF CONTRACT/ORDER NUMBER

10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NUMBER AS DESCRIBED IN ITEM 14.

CHECK ONE	
☐	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NUMBER IN ITEM 10A.
☐	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation data, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
☐	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
☐	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (*Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

The following changes are incorporated into the Emergent IV BAA0001-22 as annotated on pages 13 through 14 of the Amendment.

All other terms and conditions in the BAA remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		*(Signature of Contracting Officer)*	

Amendment 36 incorporates the following changes into Broad Agency Announcement – BAA0001-22, dated June 13, 2022, as follows:

All changes to the BAA are highlighted in **"blue"** in the Amendment.

ATTACHMENT B: AREAS OF INTEREST

Task Area A: A new Technical R&D was added to the Task Area.

A. Medical Logistics

Research shall focus on solutions to identify and resolve medical logistics that support challenges at low cost. The research may leverage existing commercial capabilities that will integrate commercial supply chain best practices and help forge strategic partnerships with critical customers, manufacturers, suppliers, and other Federal government stakeholders and industry groups. The research must enhance medical logisticscapabilities in both peacetime and operational environments. Research is limited to non-pharmaceutical classes and shall be directed to the following subtopics: (i) Data analytics and operational intelligence capabilities (ii) Fair and reasonable pricing of products in the supply chain (iii) Clinical standardization of medical products.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Dr. Gloria Edwards, gloria.edwards@dla.mil

Task Area C: Previous references to the requirements identified in Task Area C are hereby deleted, and the revised requirements are hereby incorporated in Task Area C. Also, a new Technical R&D was added to the Task Area.

C. Advanced Manufacturing

DLA seeks innovative ideas in several areas related to the use of advanced manufacturing – including additive manufacturing (AM) – in the DLA supply chain.

Suitable projects under this Area of Interest may include:

AM projects that address (a) the costs, transfer, and the use of intellectual property for AM technical data management in acquisition, sustainment, and maintenance; (b) digital verification and validation (including measures of effectiveness and key performance parameters) of AM technical data and first article testing that compare polymers and metals, and critical and noncritical items; or (c) use of digital thread to maintain a consistent AM product from design through qualification and acceptance.

Advanced manufacturing R&D projects that address new paradigms, methods, processes, or equipment for new or existing manufacturing products, materials, or supply chain components and that provide an advantage over existing techniques or tools. In this context, advantages include reduced time to market, enabling new performance attributes, improving small-batch production, cost savings, energy savings, or reduced environmental impact from the manufacturing of products.

AM projects that support DOD collaborative efforts to generate a Framework for an expedited AM source approval process for commercial vendors to reduce the overall cost, lead time and failure rates of the product acceptance process.

The following categories are provided for example regarding the above described AOIs 1, 2, and 3; though, White Paper submissions are not limited to this list.

C1 – Local Mobile AM Part Labs.
C2 – Remote Inspection - Augmented Reality.
C2 – Recycling / Sustainability/ Life Cycle for AM.
C2 – 3D Scan 3D Print for Legacy and new parts.
C3 – Universal Parts AM for Legacy systems.
C4 – Artificial Intelligence Defect Detection Systems
C5 – Cyber Security for Additive Manufacturing Machines.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Lori Smith Mitchell, Lori.Smith-Mitchell@dla.mil.

Task Area D: A new Technical R&D POC was added to the Task Area.

D. Emerging Technologies to Enhance Part, Component and Logistical Product Data Granularity, Availability and Interoperability

Research must focus on developing solutions that support DoD's Digital Engineering Strategy and DigitalModernization efforts for DLA by:

1. Using digital data in place of documents as the authoritative source of technical data;

2. Extending the model-based approach by incorporating digital engineering technologies andpractices that connect business and technical data such as artificial intelligence, augmentedrealities, digital twin, and machine learning;

3. Providing a standards-based open system IT infrastructure that enables the digital

thread, distributed manufacturing, advanced methods for cybersecurity, and protection of intellectual property; and

4. Preparing the workforce for change management and strategic communications necessary totransform DLA use of digital data.

    1. Using digital data in place of documents as the authoritative source of data;

    2. Extending the model-based approach by incorporating digital engineering technologies and practices that connect business and technical data;

    3. Building Digital Twin of Organization (DTO) that simulates DLA's business processes such as Acquire to Retire (A2R) and sub-processes such as supply chain (DTSC – Digital Twin of Supply Chain) that incorporates:

        a. Human behavior in the business processes;

        b. Technologies such as Machine Learning (ML), Artificial Intelligence (AI), Robotic Process Automation (RPA), etc.;

        c. Real-time feedback loops to not only improve routine business processes but also predict abnormal situations such as supply chain disruptions;

    4. Providing a standards-based open system IT infrastructure that enables the digital thread, distributed manufacturing, advanced methods for cybersecurity, and protection of intellectual property; and

    5. Preparing the workforce for change management and strategic \ communications necessary to transform DLA use of digital data.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Dr. Senthil Arul, Senthil.Arul@dla.mil.

Task Area E: Task Area E removed Dr. Chiu as a Technical R&D POC.

E. Smart Connected Logistics

The Internet of Things (IoT) is often viewed as a network of linked devices. Each device is a smart,

connected product characterized by its “awareness” of its state and its ability to communicate with other important “things” in its environment. Connectivity amplifies awareness and enables the device to beconnected to many other devices and sources of data. DLA seeks projects that address connecting devicesand users or systems to the data necessary to provide "cradle to grave" logistical sustainment; for example,the technology to acquire and organize the vast amount of data that will be supplied by these devices. The data must be transformed so it is coherent, relevant, and actionable by humans and machine-to-machine or system-to-system interfaces. To accomplish this, DLA expects a standard or open-source protocol solution that addresses a specific challenge that DLA currently faces. The data acquired from IoT devices will be independent from the constraints of the device suppliers or any singular data aggregator.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POCs: Dr. Barry Humphrey (*Primary* POC), Barry.Humphrey@dla.mil, and Dr. Senthil Arul, Senthil.Arul@dla.mil.

F. Anti-counterfeiting Technical Solution

Numerous reports and investigations have documented that there are counterfeit parts in DOD’s Supply Chain. In response to the threat, DLA is seeking research that focuses on providing a single low-cost anti-counterfeiting technical solution that can authenticate items in multiple Federal Supply Classes (FSCs)

supporting various DLA supply chains. At a minimum, the single low-cost anti-counterfeiting technical solution must be effective in preventing counterfeits by authenticating items in all of the following FSCs:

1. FSC 5961 Semiconductor Devices.
2. FSC 5962 Microcircuits.
3. FSC 5935 Electrical Connectors.
4. FSC 4730 Fittings Hose, Pipe and Tube.
5. FSC 3110 Bearings, Anti-friction, Unmounted.
6. FSC 3120 Bearings, Plain, Unmounted.
7. FSC 2530 Vehicle Brake, Steer Axle, Wheel and Track Components.
8. FSC 2940 Engine Air and Oil Filters, Non-Aircraft.
9. FSC 2910 Engine Fuel System Components Non-Aircraft.
10. FSC 1680 Miscellaneous Aircraft Accessories and Components.
11. FSC 5330 Gaskets.
12. FSC 5331 O-Rings.

The research must also detail how the technical solution will be integrated into the supply chains

of DLAsuppliers (i.e., manufacturers, authorized distributions and independent distributors), the impact on the supply chains of implementing the technical solution, and the probability that DLA suppliers will adopt the technical solution.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POCs: Dr. Barry Humphrey, Barry.Humphrey@dla.mil.

Task Area G: Task Area G incorporates a new AOI – Operational Energy Integration and added a new Technical R&D POC.

G. Energy Research Program

Research shall focus on developing improvements to the DoD Class III Bulk Fuel Petroleum, Oil and Lubricants (POL) supply system. The research may include areas addressing, but not limited to, the following:

- Improvements to military acquisition specifications for POL, aerospace fuels/propellantsand related products (e.g. additives);
- Development of new analytical methods, or improvements to existing methods, designed todetermine product quality or identify anomalies;
- Enhancing military adoption and use of fuel products derived from alternatives to petroleum;
- Development of renewable energy technologies (e.g. wind, solar, hydro, geothermal) formilitary and government use;
- Improvements to DoD fuel storage, handling and distribution systems;
- Correction of known operational equipment issues connected to specification fuel use.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical POCs: Mr. Lindsey Hicks, Lindsey.Hicks@dla.mil.

Operational Energy Integration

DLA Energy's ability to provide Petroleum Logistics in a contested environment presents unique challenges, will demand innovative solutions, assessment, and adaptation to provide rapid and continuous support to the warfighter especially in support of Expeditionary Advanced Based Operations (EABO).

Research should focus on potential ideas for enhancing the security and resilience of petroleum logistics in contested environments, recognizing that implementing these solutions will require collaboration between government agencies, private industry, and research institutions.

The research may include areas addressing, but not limited to, the following:

Resilient Infrastructure & Delivery:

- **Mobile Refining & Modular Infrastructure: Invest in deployable, modular refining units and mobile fuel storage solutions to create a decentralized and agile network less susceptible to disruption.**
- **Autonomous Delivery Systems: Develop and deploy unmanned ground vehicles (UGVs) and drones for secure and efficient fuel transportation in high-risk zones, reducing reliance on vulnerable convoys.**

Fuel Source Flexibility & Efficiency:

- **Alternative Fuel Production: Research and develop technologies for producing synthetic fuels or alternative energy sources (e.g., hydrogen) from readily available feedstocks in theater, reducing dependence on traditional fossil fuel supply chains.**
- **Fuel Efficiency Optimization: Develop and implement technologies for real-time monitoring and optimization of fuel consumption in vehicles and equipment, extending operational range and minimizing logistical burdens.**
- **Energy Storage & Microgrids: Invest in advanced energy storage solutions and develop deployable microgrids to enhance operational resilience and reduce reliance on vulnerable power grids.**

Advanced Materials & Manufacturing:

- **Self-Sealing Fuel Tanks: Develop self-sealing materials for fuel tanks and containers to mitigate the impact of ballistic damage and minimize fuel loss in hostile environments.**
- **Additive Manufacturing for Spare Parts: Utilize 3D printing technologies to enable on-demand production of critical spare parts for fuel infrastructure**

and equipment, reducing reliance on vulnerable supply lines.

- **Lightweight & Durable Materials: Research and develop lightweight, high-strength materials for constructing fuel containers, pipelines, and infrastructure, enhancing transportability and resilience.**

Data Analytics & Predictive Modeling:

- **Supply Chain Simulation & Wargaming: Develop sophisticated simulation environments to model and analyze various scenarios, optimize supply chain resilience, and enhance preparedness for potential disruptions.**

- **Dynamic Routing & Optimization: Develop algorithms and software for dynamic route planning and optimization, considering real-time threat assessments and fuel efficiency factors to ensure secure and efficient delivery.**

- **Predictive Maintenance for Infrastructure: Utilize data analytics and machine learning to develop predictive maintenance models for pipelines and other critical infrastructure, anticipated failures and minimizing downtime.**

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Guno Kletter, Guno.Kletter@dla.mil.

H. Artificial Intelligence/Machine Learning Applications

Responses shall focus on artificial intelligence (AI) or machine learning (ML) applications to aid in planning, acquisition, and technical/quality processes across the DLA Enterprise. The research may leverage commercial best-in-class concepts and practices that will integrate existing data and metrics withvarious AI or ML tools to provide narrowly focused solutions to specific challenges.

Due to security concerns with use of sensitive DLA data, projects that include processing of DLA data will be required to do so either (a) in the DLA R&D Azure cloud environment, or (b) on standalone computers with no internet access provided as Government Furnished Equipment (GFE) using data provided by DLA onCD-ROM media. No other access to DLA data will be allowed without a waiver from the DLA Chief Data Officer.

Research shall be directed to one or more of the following subtopics:

1. Business decision analytics.
2. Demand forecasting & inventory optimization.
3. Production lead time planning.

4. Supplier selection & supplier relationship management.
5. Contract drafting, execution, & management.
6. Diminishing manufacturing sources & material shortages.
7. Risk identification & management.
8. Counterfeit detection & avoidance.
9. eCommerce.
10. Cybersecurity.
11. Generative Artificial Intelligence:

    a. **Content Generation:** The capability to generate text, image, content, code, video, or audio based on some given parameters or examples.

    b. **Data Manipulation:** The capability to enhance or modify existing content or data (grammar, proofreading, tone change, style of image), data augmentation, anomaly detection, or model training.

    c. **Content Assistance:** The capability of leveraging conversational agents, interactive design, or retrieval of documentation.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POCs: Dr. Barry Humphreys, Barry.Humphrey@dla.mil, and Ms. Laura Schreiber, Laura.Funk@dla.mil.

K. Lithium Battery Deactivation

End of life rechargeable and non-rechargeable lithium batteries are currently handled and transported as hazardous waste. These batteries must be shipped according to international shipping regulations and packaging requirements, thereby incurring significant transportation and processing costs for their disposal. DLA seeks projects to implement a preferred lithium battery deactivation technology at key Continental U.S. (CONUS) and Outside the Continental U.S. (OCONUS) locations. The goal is to install and commission local pilot processes to deactivate lithium batteries received from U.S. military installations for the purpose of recycling non-hazardous materials locally and shipping valuable battery materials back to the U.S. for further direct recycling. Projects will utilize already developed deactivation and partial disassembly technology designed for lithium-ion and primary lithium military batteries and include cost-share of all equipment costs – mobile, expeditionary systems are preferred. Projects will include collaboration with deactivation technology provider, identification of operational locations, training, transportation, set up and operation of equipment for the collection and processing of batteries for a period up to one year.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Mr. Mather Hutchens, Matt.Hutchens@dla.mil.

L. Blockchain Logistics

Blockchain has become more than just a digital distributed ledger that is used for cryptocurrency. Blockchain has become a system of recording information in ways that make it difficult or impossible to change, hack, or cheat the system. Within the supply chain blockchain can now be used to provide all parties within the supply chain with access to the same information which reduces communication or transfer data errors. Research in this area shall focus on ways to enable DLA to increase efficiency through process automation, transparency, traceability, and transaction verification more efficient. Research shall also focus on using this technology in order to make the supply chains more secure as the origin and authenticity of the data and products shared and providing a more secure means of collaboration between DLA and its customers and partners."

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Dr. Barry Humphrey, Barry.Humphrey@dla.mil.

M. Edge Computing

Edge computing is unique in that data is processed by the device itself or by a local computer or server, rather than being transmitted to a data center. Edge computing is important because it creates and improves ways for industrial and enterprise-level businesses to maximize operational efficiency, improve performance and safety, automate all core business processes, and ensures availability at all times. Research in this area shall focus on the ability to digitally connect and automate DLA processes at the edge and allow for organizations

within DLA to extend the reach and visibility of their supply chains. Research will also focus on using edge computing to reduce the amount of sensitive data that must be transmitted over networks and how to reduce supply chain vulnerabilities by reducing congestion within the DLA network.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Dr. Barry Humphrey, Barry.Humphrey@dla.mil.

Task Area O – Disposition Services Warehouse Management

O. Human-Machine Teaming for the following DLA operational organizations – Disposition Services Warehouse Management

Disposition Services Warehouse Management:

Response must focus on various ways to help ensure worker's safety, efficiencies, and effectiveness in disposition warehouses by automating repetitive and mundane tasks and provide data on improved performance. The labor-saving devices must demonstrate a significant increase in improving disposal efficiencies, automated material transport within the warehouse, tracking and tracing of returned materials, the rate of palletizing and depalletizing of large containers and offloading of trucks. Technology must help prevent overexertion among human workers involved in lifting, moving, bending, stooping and synchronize well with human centered activities and business processes. Solutions must work autonomously in cleaning and vacuuming floors while neatly avoiding walls and obstacles. Technology must enable production efficiency simulations that reduce disorganization and unnecessary complexity in disposition warehouse planning and operations.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Danielle Williams, Danielle.Williams@dla.mil.

Task Area P - Critical Emerging Technologies Transition and Adoption

In support of DLA strategic priorities and modernization initiatives, the Research and Development Program has interest in research to address Critical Emerging Technologies Transition and Adoption as follows:

1. Identify, test, pilot, and prototype emerging technologies and build collaborative partnerships to enhance efficacy, efficiency, and effectiveness.

2. Forge Strategic Partnerships – Establish and nurture partnerships with industry, academia, and other organizations to leverage knowledge, resources, and expertise in the pursuit of innovation.

3. Promote a Culture of Early-Adoption of Emerging Technologies – Foster a culture within the organization that embraces change, encourages experimentation, and supports continuous learning and improvement.

4. Provide effective and efficient transition of programs from prototype to production. This includes setting goals, timelines, milestones, roles, responsibilities, and deliverables for the transition of the program from the R&D environment into the line operations of DLA. Include but not be limited to:

    - Conduct Enterprise user-centered needs analysis to define opportunities focused on emerging technologies.

- Lead or advise executive leadership on the launch of new technology initiative for adoption in production.

- Identify and align emerging technologies to Enterprise efforts for synergy.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Maniphone 'Mani' Sourivong, Maniphone.Sourivong@dla.mil.

Task Area Q - Research for DLA Troop Support Construction and Equipment (Class IV), following three new areas of research

Troop Support Construction and Barrier Procurement Studies

Response must focus on various ways to consolidate short and medium-term global procurement challenges and requirements for Construction and Barrier Class IV (CLIV) supply chain materials for every CLIV Supplier found in-country to reduce cost, increase productivity, and provide predictable budgeting and CLIV inventory management. The labor-saving studies and authoritative databases provide proactive monitoring of the Trade Agreements Act (TAA) compliant CLIV suppliers in Geographic Combatant Commands' area of responsibility to ensure continuity of sustainment in military construction. Solutions include country TAA designation and status including purchase thresholds, country-level customs information and domestic CLIV production capacity and imports, potential foreign ownership control and influence (FOCI) for every CLIV supplier in-country and closest alternative TAA-compliant vendors and materials. Solutions must be contained in a menu-driven database where data is categorized by country, by CLIV material type, CLIV product type, National Stock Number (NSN) numbers and comprehensive vendor profile per country with contact details, compliance validation information and details for flagged FOCI and other risks.

Shelf Life and Pre-hydration of Calcium Sulfoaluminate (CSA) Cement

The shelf life of calcium sulfoaluminate (CSA) cement depends on its CSA content, brand, and storage conditions. In general, CSA cement remains usable for at least six months, but due to pre-hydration issues, its long-term performance can be compromised. In practice, the shelf life of rapid-setting cementitious binders and mortars is typically limited to six months to one year, even when stored properly. Pre-hydration often manifests as hard lumps in the cement, reducing its hydraulic reactivity. DLA is looking at chemical improvements that enhance cement's resistance to moisture uptake and other innovative cost-effective ways to produce cement with a shelf life of seven years.

Self-Consolidating Cementitious Systems for Ballistic-Damaged Airfields

Existing Airfield Damage Repair (ADR) approaches rely on heavy equipment, mixing infrastructure, vibration or imported aggregates. DLA is looking for a rapid, low logistics airfield damage repair solution that uses minimal to no equipment, allows for imperfect execution, tolerates seawater, brackish water, and gains rapid strength supporting aircraft operations in hours. Solution must function on remote islands and austere bases with no electricity under extreme climatic conditions. Must be able to fix craters larger than 30 feet in diameter. Following clearance and minimal trimming, the missile crater could be filled with on-site fractured concrete and pavement debris. A highly flowable, self-consolidating cementitious binder is gravity-placed to infiltrate the crater mixing with the rubbles and water on-site resulting in a cement-stabilized composite. Performance targets include initial set in 15 minutes; walk-on time less than 90 minutes; compressive strength reaching 1,500 psi or higher in 2 hours and 3,000 psi in 4 hours or less.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Dr. Imes Chiu, Imes.Chiu@dla.mil.

Task Area R - Develop and Validate a Novel High-Performance Graphite and Graphite-Oxide based Firefighting Foams for Critical Military Applications

The objective of this BAA topic is to solicit proposals for the research, development, testing, and validation of a next-generation, high-performance firefighting foam based on graphite and graphite-oxide technology. The proposed solution must serve as a direct replacement for legacy AFFF, demonstrating equivalent or superior firefighting capability.

The foam must be cost-effective, environmentally friendly, and fully compatible with existing DoW firefighting equipment and infrastructure. Special emphasis will be placed on solutions that demonstrate robust performance in extreme cold-weather and saltwater environments, addressing the specific performance gaps identified in GAO-24-107322.

Offerors shall propose a comprehensive plan to develop and validate a novel graphite-based foam formulation. The proposal must, at a minimum, address the following technical requirements:

- Formulation Development: Describe the scientific approach and formulation of the proposed graphite-oxide based foam.
- Performance Testing in Extreme Environments: Include a detailed test plan to demonstrate the foam's effectiveness in both extreme cold (e.g., -20°C and below) and saltwater conditions.

- Military Specification Validation: The plan must include testing to validate the formulation against the criteria outlined in MIL-PRF-32725, with the modification of using saltwater instead of freshwater for all relevant tests. Testing should also address the performance of aged foam concentrate and various concentration levels.
- Large-Scale Operational Testing: Outline a plan for conducting large-scale, operationally relevant tests (e.g., simulated aircraft or fuel-tanker fires) using existing DoW-relevant firefighting equipment to validate performance and compatibility.
- Supply Chain and Manufacturing Plan: Provide a preliminary plan for scaling production, with a focus on integrating domestic material sources to ensure a secure and resilient supply chain.
- Environmental and Toxicological Analysis: Include a plan for comprehensive environmental and toxicological testing of the final formulation to verify its safety.

Efforts may also include transition of R&D Projects as outlined in Section, B.10 Research and Development Project Transition Information.

Technical R&D POC: Gloria Edwards, Gloria.Edwards@dla.mil

2. All other terms and conditions in the BAA remain unchanged.