STATEMENT OF OBJECTIVES (SOO)

Defense Production Act (DPA) Title III

Critical Chemical Precursors for Energetic Materials

28 July 2021

1.0 SCOPE

1.1 This Defense Production Act (DPA) Title III project intends to expand the domestic processing and production capability for chemical precursors to be used in the energetic materials of conventional armament systems and other applications in commercial markets.

1.2 It is generally understood the extraction *(i.e. mining)* and initial processing of the materials of interest and their precursors are executed by foreign sources. Therefore, the goal of this effort is, to the fullest extent possible, establish or increase a domestic capability to obtain and produce ingredients, subcomponents, and capabilities in a vertically integrated supply chain.

1.3 Developing a domestic supplier base for these chemicals is crucial to effectively meet both the Department of Defense (DoD) and commercial industries demand. The Government understands the challenges of establishing raw material mining activity in the United States, and is therefore open to the use of stable foreign sources for the raw material, with a preference for the use of domestic sources, or sources within the National Technology and Industrial Base (NTIB), or parties to the US – Mexico – Canada Free Trade Agreement (USMCA).

1.4 Chemical materials under consideration for this award are listed in Table 1 of the "Requirements Document", which shall be provided separately upon request and Government approval to disseminate. Reference Call 011, Page 1, "Supplemental Information."

2.0 BACKGROUND

2.1 Title III of the DPA of 1950, as Amended (50 USC 4501 et seq.) grants the President of the United States the authority to provide appropriate incentives to create, maintain, protect, expand, or restore domestic industrial base capabilities for the national defense and for critical infrastructure protection and restoration.

2.2 The availability of chemical precursors to make energetic materials *(explosives, propellants, pyrotechnics)* is a major readiness issue for the Department of Defense (DoD). Foreign dependency, fragile supply chains, diminishing domestic suppliers, increasing environmental

regulations, obsolete material specifications, and unbalanced demand for energetic materials are increasing the risk within the DoD for the procurement and sustainment of weapon systems and their components.

3.0 OBJECTIVES

3.1 The objectives identified in Sections 3.1.A, 3.1.B, 3.1.C, and 3.1.D are standard requirements for a DPA Title III project. The objectives identified in section 3.1.E are the specific technical requirements for this effort. The offeror shall propose a technical effort to address the objectives with the currently available DPA Title III funding and anticipated company cost share for this effort.

A. Program Management, Administration, and Reporting

1. Manage and implement the project. Monitor and control the project's cost, schedule, and performance parameters.
2. Establish a cumulative monthly expenditure profile baseline for the government funds. Track the actual and forecasted monthly expenditures against the baseline and report it to the government quarterly.
3. Participate on the project's Integrated Product Team (IPT) and interface with DPA Title III project managers and agreements personnel.
4. Conduct Quarterly Project Management Reviews (PMRs) and ad hoc Technical Interchange Meetings (TIMs) as required. At least one PMR in any year shall be conducted at the Recipient's facility. Remaining PMRs shall be conducted by conference call, at the Recipient's facility, or at the DPA Title III Program Offices at Wright-Patterson Air Force Base. Key sub-awardees should actively participate in PMRs.
5. Conduct a Technical Project Kickoff Meeting no later than 30 days after Agreement award.
6. Insure, maintain, operate and service all Government and non-Government owned capital equipment and tooling (if any) required to produce chemical precursors to be used in energetic materials for munitions and weapon systems. Update and provide the Government Equipment Property List at the time of quarterly PMRs and as required.

7. Prepare for a No Cost Monitoring Phase after the conclusion of the technical effort to demonstrate and support the long-term goals of this project. This No Cost Monitoring effort shall provide the Government with insight into the continuing operations and business viability of the Recipient.
8. Establish and track Key Performance Parameters (KPPs) with DPA Title III IPT concurrence. Threshold (minimum) and Objective (stretch) targets shall be established for at least two KPPs in each of the following four categories: Product Performance, Manufacturing, Financial and Marketing. Report KPP performance at quarterly PMRs and as required.
9. The Government reserves the right to use Advisory and Assistance Services (A&AS) contractors to advise the Government during the length of the Agreement and participate in PMRs and company site visits as required. A&AS contractor support may include conducting a production process assessment on a yearly basis. This assessment shall be performed at the recipient's facility.
10. Manage, including flow-down requirements, partnerships, or other business arrangements needed to complete productization and qualification of the tool/equipment to be produced under Section 3.1.E of this effort.

B. Strategic Business Planning

1. Develop and maintain a strategic business plan to include:
    a. Submit initial plan nine months after initial award; update and resubmit the plan on an annual basis thereafter.
    b. Include in the planning the key issues related to the establishment of a competitive and commercially viable merchant supplier of chemical precursors to be used in energetic materials for munitions and weapon systems, including but not limited to unit cost(s), impacts of environmental and similar regulations (financial and schedule), minimum sustaining rates, etc.
    c. Identify a plan to cultivate and maintain viable sub-tier suppliers. Define sub-tier supplier risks or challenges whether engineering, manufacturing (capacity), or schedule related.

d. The comprehensive strategic business planning should cover a minimum outlook of three years, and preferably five years, including all financial statements, actual and forecasts.

e. Provide performance-to-plan evaluations at regular intervals, with management review comments, to the DPA Title III project manager so long as an Agreement relationship exists.

C. Market Planning and New Business Development

1. Develop and maintain a Marketing Plan to include but not be limited to:

   a. Submit initial plan six months after initial award; update and resubmit the plan on an annual basis thereafter.

   b. Strategic market planning should address current and future customer needs for chemical precursors to be used in energetic materials for munitions and weapon systems including but not limited to similarities and differences in DoD vs commercial market (including pricing), variability of pricing from multiple suppliers (e.g. price differences between domestic and foreign sources of supply), and make vs buy decisions based on impacts of domestic production related regulations.

   c. Survey, be responsive to, and report to the government on (DoD and commercial) customer needs, requests, and trends for chemical precursors to be used in energetic materials for munitions and weapon systems.

   d. Provide performance-to-plan updates at regular intervals, including reports on business capture plans (target business awards, actual awards, and missed opportunities), to the DPA Title III project manager so long as an Agreement relationship exists.

   e. Communicate other factors relevant to markets for the material produced by this facility.

D. Business Viability and Manufacturing capability/experience

1. Address the availability of resources to be employed to become, or maintain a position as, a competitive, economically viable, responsive merchant supplier to the government

and commercial sectors for chemical precursors to be used in energetic materials for munitions and weapon systems.

2. Provide evidence of technical understanding and institutional knowledge with respect to chemical precursors to be used in energetic materials for munitions and weapon systems for both the US Government and commercial markets. Evidence may include, but is not limited to, intellectual property, documented manufacturing capability and experience, technical specifications for existing devices, and dossiers of key personnel.

E. Technical

1. Establish increased and sustainable critical chemical precursor production capacity for use in energetic materials for munitions and weapon systems in a cost-effective manner.

2. Conduct manufacturing analyses and hold review events to coordinate maturation and risk management.
    a. Value Stream Analysis (VSA) or Capacity Model: The recipient shall hold an onsite review of the VSA or Capacity Model with Project IPT and DPA Title III.
    b. Manufacturing Readiness Assessments (MRA): Conduct an MRA for each product, to include generating a component risk matrix and Manufacturing Maturation Plan (MMP) that includes funding sources and schedule. Recipient shall lead the MRA effort as a team that includes the recipient, Project IPT, and DPA Title III. Onsite events shall be held after the initial self-assessment to review critical products and processes. Baseline MRAs shall be conducted at the beginning of the effort and final re-assessments shall be conducted prior to the end of the technical period of performance.
    c. Process Failure Mode and Effects Analysis (PFMEA): Conduct PFMEA on critical manual processes, and processes that don't allow follow on inspection or test. Per PFMEA standard practice, PFMEA events shall witness the critical processing activities. Recipient shall lead the PFMEA events as a team that includes the recipient, Project IPT, DPA Title III, and others as required by DoD.
    d. Risk Management Review: Recipient shall hold a risk management review meeting with the Project IPT, DPA Title III, and others as required by DoD. This review shall include supply chain risks as well.

e. Material Review Board (MRB): Recipient shall hold an MRB planning review after manufacturing line prove-out, relative to a real or relevant product.

f. Depiction of the entire supply chain at all tiers, including country of origin of the supplier and potential alternate suppliers.

3. For candidates that already have established production capability for commercial products, demonstrate manufacturing line prove-out and production of chemical precursor product samples for Customer and/or Government Evaluations in end item munitions and weapon systems.

4. Requirements: Once an initial pilot process is established, the Recipient shall provide a 50 gram sample of each chemical precursor product produced per the approved schedule for Government analysis per the appropriate specification(s). Once the analysis is successfully completed, the Recipient shall scale up the manufacturing process to deliver 250 pounds of each chemical precursor product produced for further Government analysis and end item testing per the appropriate specification(s). Upon successful completion of the end item testing, the Recipient shall achieve full-rate production of said materials to the minimum quantities and specifications as shown in the Requirements Document. Reference Call 011, Page 1, "Supplemental Information."

4.0 SECURITY REQUIREMENTS

4.1 Operations Security (OPSEC) Requirements: The recipient shall participate in all activities associated with the disciplines of the organization's Industrial Security, Information Security, Personnel Security, Operations Security (OPSEC), and Antiterrorism programs, following appropriate measures in each program as required for this particular agreement. Security measures are required to reduce program vulnerability from successful adversary collection, exploitation of critical information, and violations of export control requirements. The prime recipient shall ensure all subrecipients, if applicable, conform to these requirements as required by the prime recipient.

4.2 Program Protection Plan (PPP): Any potential critical program information (CPI) generated as part of this effort will be reviewed to determine the need for a PPP or to be included as part of an existing PPP.

4.3 Foreign Participation: Not at Prime Recipient level:

4.3.1 Foreign Nationals (FNs) (including individuals from countries other than the United States who are working for a company considered a "domestic source" as defined in the Defense Production Act of 1950) can be employed by the Prime Recipient or Sub-awardee; however, FNs will be limited to Public Domain information unless the Recipient has obtained the proper License of Technical Assistance Agreement that authorizes disclosure of Classified Military Information (CMI) and/or Controlled Unclassified Information (CUI) to foreign entities pursuant to the Department of State's ITAR or Department of Commerce's EAR.

4.3.2 Public Domain information is defined as information that is releasable to the general public and sometimes referred to as open source material. Examples include but are not limited to newspapers, magazines and information posted on the internet.

5.0 DELIVERABLES:

The Recipient will have the following required deliverables:

Deliverable Item	Submittal Requirement
Final Report	Draft Final report due 30 days after completion of the TPoP, Final Report due 90 days after completion of TPoP
Funds & Man-hour Expenditure Report	Quarterly
Recipient's Progress, Status & Management Report	Quarterly
Strategic Business Plan	9 months ARA* and annually thereafter
Property Control List	Quarterly / As Required
Presentation Material	Quarterly / As Required
Marketing Plan	6 months ARA* and annually thereafter
Copy of Recipient's Billing Voucher	As Required
Manufacturing Readiness Assessment (MRA)	As Required
50 gram material sample(s)	Per Contractor's Approved Schedule
250 pound Pilot Line sample(s)	Per Contractor's Approved Schedule
1 year quantity of each material per Requirements Document	Per Contractor's Approved Schedule

* After Receipt of Award (ARA)