Defense Production Act (DPA) Title III
Neodymium Iron Boron (NdFeB) Sintered Materials and/or NdFeB Permanent Magnets Supply Chain Study and Inventory Demonstration
Statement of Objectives (SOO)

1.0 SCOPE

This Defense Production Act (DPA) Title III project will execute a supply chain study and inventory demonstration for qualified Neodymium Iron Boron (NdFeB) sintered materials and/or permanent magnets. Qualified NdFeB sintered material and/or NdFeB permanent magnets are those products that are approved for use in DoD or other U.S. Federal Government applications. For other U.S. Federal Government applications, qualified as defined in their purchasing Agency regulation(s). The Awardee(s) will demonstrate the NdFeB sintered materials and/or NdFeB permanent magnet supply chain by establishing, managing, maintaining, selling, distributing and replenishing a target of a six month inventory of qualified NdFeB sintered materials and/or NdFeB permanent magnets. Inventory may be comprised of NdFeB sintered materials, NdFeB permanent magnets or some combination of the two. This proposed supply chain study and inventory demonstration is in response to Congressional actions via 10 U.S.C. 2533c. This effort will research, evaluate, and establish the supply chain related to the establishment of a secure, domestic source of NdFeB sintered materials and/or NdFeB permanent magnets in a timely and responsible manner for the Department of Defense (DoD) and U.S. Federal Government. The Project will be executed over a 37 month period as follows: 4 month inventory acquisition; 30 month study observation and documentation of DoD, other Government Agencies and commercial demands; and 3 month final reporting.

2.0 BACKGROUND

DPA Title III as amended (the "Act") (Title 50, U.S.C., Section 4533) grants the President the authority to provide appropriate incentives to create, maintain, protect, expand, or restore domestic industrial base capabilities within the supply chain for rare earth materials essential for the national defense and for critical infrastructure protection and restoration.

On July 22, 2019, a Presidential Determination letter was issued stating that, pursuant to Section 303 of the Defense Production Act of 1950, the domestic production capability for NdFeB rare earth sintered material and permanent magnets is essential to the national defense. Further it was declared that measures shall be taken to ensure that purchases, purchase commitments, or other action pursuant to section 303 of the Act are the most cost-effective, expedient, and practical alternative method for meeting the need for this critical capability. Under Title III of the DPA, there are a number of program options available. These include purchases to create or expand (scale-up) production capacity; improve quality and yield; purchase test quantities for process validation and qualification testing; for development and implementation of business and marketing plans, and to purchase and install production equipment; and/or commitments to purchase an industrial resource, material, or a critical technology item.

Today, the majority of the NdFeB permanent magnet supply chain is located in China, Southeast Asia, Japan, and Europe. NdFeB magnets are used in a variety of applications essential to Economic and National Security. Of the DoD, other Government Agencies and commercial demands, industrial applications consume the largest rare earth product markets. The growth of hybrid electric and electric vehicles results in the transportation market consuming the second highest volume of NdFeB magnets, while residential and commercial buildings, including heating, ventilation, and air conditioning (HVAC) systems, elevators, and appliances, consume the third highest volume of NdFeB permanent magnets. Aerospace and Defense applications consume a small volume of NdFeB permanent magnets compared to other industrial applications; however, this market is one of the most critical in terms of national security.

3.0 OBJECTIVE

The objective of this effort is to execute a supply chain study and inventory demonstration where one or more awardees will research and develop a viable supply chain capable of establishing and maintaining a secure, domestic source of qualified NdFeB sintered materials and/or NdFeB permanent magnets. The Awardees will demonstrate the supply chain by establishing, managing, maintaining, selling, distributing and replenishing a target of a six month inventory of qualified NdFeB sintered materials, NdFeB permanent magnets or some combination of the two. All materials and magnets for support of the supply chain study and inventory demonstration shall be from qualified sources. Qualified sources are those business concerns approved to sell NdFeB sintered materials and/or NdFeB permanent magnets for use in DoD and other U. S. Federal Government applications.

4.0 REQUIREMENTS AND RESTRICTIONS

The Awardee(s) will prepare and propose a Statement of Work (SOW) to meet or exceed the objectives and requirements of this SOO.

The Awardee(s) will be required to perform:

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 government funds and cost share. Track the actual monthly expenditures against the baseline and report it to the government quarterly.

3. Participate on the project's Stakeholder (government and contractor) Integrated Product Team (IPT) and interface with Title III project managers and contracting (agreements) personnel.

4. Conduct regular technical update meetings/teleconferences and Quarterly Program Management Reviews (PMRs). Up to two PMRs in any year may be conducted at the Awardee's facility, and at least one PMR per year may be at a government location.

Remaining PMRs may be conducted by conference call. Key sub-Awardees and/or subcontractors should actively participate in PMRs.

5. Conduct a Technical Project Kickoff Meeting no later than 30 days following award.

6. Procure, track, insure, maintain, operate and service all government and non-government equipment, tooling, inventory and facilities as required to analyze and evaluate the domestic NdFeB sintered material and/or NdFeB permanent magnet supply chain. Inventory tracking will minimally contain the following: source of item, location of inventoried items, date items entered/exited into/from inventory, total number of days in inventory, product/inventory type, grade, stock number (if applicable), number of units, cost per unit, selling price (when sold), customer sold to, restocking information. Any proprietary information shall be processed in accordance with Section 5.0, Security Requirements.

7. Update and provide tracking of inventory procured under this effort during the regular technical teleconference calls and at the quarterly PMRs.

8. Conduct initial and final evaluations of the supply chain inventory for NdFeB sintered material, NdFeB permanent magnets or some combination of the two for the required timeframe of rotating supply and provide reports to the government. Outline for content of the initial and final supply chain evaluations are detailed in Section C.

9. A Summary Business Plan is due with the submission of the proposal and a finalized Comprehensive Strategic Business Plan is due within six months of award. In addition to the standard topics suggested in the summary business plan template provided with this request, the Awardee shall specifically address their supply chain management strategy, ability and plan to secure their present and future supply of qualified critical source materials to remain a viable merchant supplier of NdFeB sintered materials and/or NdFeB permanent magnets, and an approach to mitigate and/or manage key risks reflected in the current marketplace.

    a. The Comprehensive Strategic Business Plan should cover a minimum outlook of 24 months, including all financial statements, actual and pro forma forecasts.

    b. The Awardee shall certify they meet the criteria in Funding Opportunity Announcement (FOA) Number FA8650-19-S-5010, Issue Date: 12 July 2019, Appendix I, “Certifications for Assistance Instruments,” (5) Certification Regarding Merchant Supplier – Defense Production Act, Title III, pg 3.

    c. The strategic business plan should address current and future customer needs (domestic and foreign, civilian and military) for NdFeB sintered material and/or NdFeB permanent magnets.

d. Survey the marketplace and report to the government on, (DoD, other Government agencies and commercial demand) customer needs, requests, and trends for all types of NdFeB sintered material and/or NdFeB permanent magnets.

e. Define plans/opportunities to use material market development for establishing, maintaining, selling, distributing and replenishing an inventory of NdFeB sintered material and/or NdFeB permanent magnets.

f. For potential new suppliers, the awardee shall include in the required Summary Business Plan the key issues related to the establishment of a competitive and commercially viable merchant supplier of NdFeB sintered material and/or NdFeB permanent magnets. The Awardee shall subsequently provide a credible strategy in a finalized Comprehensive Strategic Business Plan, demonstrating how they will become and remain a viable merchant supplier

10. Develop, implement and maintain a Comprehensive 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. Market planning should address current and future customer needs for NdFeB sintered material and/or NdFeB permanent magnets.
    c. Survey, be responsive to, and report to the government on (DoD, other Government agencies and commercial demand) customer needs, requests, and trends for NdFeB sintered material and/or NdFeB permanent magnets.
    d. Provide performance-to-plan updates quarterly, as defined in Supply Chain Study and Inventory Demonstration Report, 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.

B. Technical Requirements for the Supply Chain Study and Inventory Demonstration

1. The Awardee(s) shall demonstrate the supply chain for NdFeB sintered materials and/or permanent magnets by establishing, managing, maintaining, selling, distributing and replenishing an inventory. This supply stock shall be a target of ***a six month inventory*** of either NdFeB sintered materials, NdFeB permanent magnets, or some combination of the two and subject to funding availability and negotiations. Per Congressional action via 10 U.S.C. 2533c, all products and materials for support of this supply chain expansion shall be from a domestic source as defined in the Defense Production Act, or U.S. allied trade partner. If a qualified domestic source or qualified U.S. allied trade partner source does not exist, the Awardee(s) shall obtain the product/material from a qualified source and identify the product/material as non-compliant.

a. Should a Non-Availability Determination (i.e., a finding by a USG component that NdFeB sintered material and/or NdFeB permanent magnets are not available from domestic sources and thereby qualify for an exemption to 10 U.S.C. 2533c) be made prior to or following award, it will be identified to all interested parties, and Awardee(s) will subsequently identify how they plan to meet the project requirements under this new market condition.

b. If the vendor is providing NdFeB sintered material and/or NdFeB permanent magnets that are not available from a domestic source, the vendor shall provide a report on the expected cost to requalify the NdFeB sintered material and/or NdFeB permanent magnets from a domestic source.

2. The Awardee(s) shall purchase an inventory of qualified NdFeB sintered materials, NdFeB permanent magnets or some combination of the two equivalent to the agreed upon levels at award. The Awardee(s) will have 120 days to meet the required level. The Awardee(s) is expected to own, sell and replenish this inventory for DoD and U.S. Federal Government end users. Government funds may not be used to purchase inventory; however, Government funds may be used for other project components. Examples of other project components may include, but are not limited to: labor hours, overheads, equipment, holding and storage cost (as these things relate to the planning for, management of, and storage of said inventory), outside consulting, travel, and other direct costs.

3. The Awardee(s) shall be responsible for maintaining, selling, and restocking the NdFeB sintered material and/or NdFeB permanent magnet inventory. Awardee(s) will restock the inventory as expediently as possible so as to not disrupt USG supply needs.

4. The Awardee(s) shall manage, maintain, sell, distribute and replenish the inventory for a period of 30 months.

5. Offeror will, if applicable, demonstrate current verified sales to DoD and U. S. Federal Government end users (identifying end use programs if known), and anticipated future customers.

6. Offeror will, if applicable, describe existing supply chain operations (to include sub-tier relationships).

7. Offeror will purchase a target of a six month revolving inventory (quantity and grade) of NdFeB sintered material and/or permanent magnets for use in DoD and/or U. S. Federal Government applications, plus any variance of the next six month rotation of inventory.

C. Reporting Requirements for the Supply Chain Study and Inventory Demonstration

1. Prepare, submit and implement a Supply Chain Study and Inventory Demonstration Report that addresses the key aspects of establishing, maintaining, selling, distributing and replenishing a target of a six month inventory of qualified NdFeB sintered materials and/or NdFeB permanent magnets. The Awardee(s) will update the plan quarterly. The report will identify:

    a. The Awardee's current verified sales for the past two years to DoD and Federal Government end users (identifying end use programs, if known), and anticipated future customers.

    b. Current supply chain description (to include sub-tier relationships) including programs which are currently in compliance with 10 U.S.C. 2533c and programs not currently in compliance with 10 U.S.C. 2533c.

    c. Anticipated and actual inventory (quantity and grade) of NdFeB sintered materials and/or NdFeB permanent magnets for a targeted six month supply, plus any needed variance, or as negotiated, based on available funding.

    d. Current plan and timeline to ensure supply is in compliance with 10 U.S.C. 2533c in a timely manner including a detailed description of any barriers to compliance.

    e. Strategy to meet and manage the proposed inventory level and associated timeframes necessary for the inventory acquisition and buildup.

    f. A comparison of lead times and purchase pricing for material in compliance with 10 U.S.C. 2533c and material not in compliance with 10 U.S.C. 2533c.

    g. Identify potential Science and Technology (S&T) options to address supply chain shortcomings.

5.0 SECURITY REQUIREMENTS

A. Operations Security (OPSEC) Requirements

All Awardees shall participate in all activities associated with the disciplines of the organization's Industrial Security, Information Security, Personnel Security, Operations Security (OPSEC), Antiterrorism, and Program Protection programs, following appropriate measures in each program as required for this particular agreement. These are required in an effort to reduce program vulnerability from successful adversary collection, exploitation of critical information, and violations of export control requirements. The Awardee will ensure that all sub-awardees, if required, conform to these requirements as required by the Awardee. Air Force Research Laboratory Materials and Manufacturing Directorate (AFRL/RX) Security can provide guidance as needed.

B. 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.

C. Foreign Participation

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.

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.

6.0 DELIVERABLES

The following reporting requirements are defined for this effort:

Deliverable Item	Submittal Requirement
Supply Chain Study and Inventory Demonstration Report	Quarterly
Copy of Recipient's Billing Voucher	As Required
7.040 Final Report	Draft Final Report due 30 days after completion of the Technical phase, Final Report due 90 days after completion of the Technical phase
7.050 Funds & Man-hour Expenditure Report	Quarterly
7.052 Recipient's Progress, Status & Mgt Report	Quarterly
7.054 Strategic Business Plan	6 months ARA*/ Updated Annually
7.055 Property Control List	Quarterly / As Required
7.057 Presentation Material	As Required
7.060 Marketing Plan	6 months ARA*/ Updated Annually

* After Receipt of Agreement or Award (ARA)