

**Defense Production Act (DPA) Title III Rare Earth Element (REE)
Separation and Processing Project
Statement of Objectives (SOO)**

1.0 SCOPE

This Defense Production Act (DPA) Title III project aims to establish one or more secure domestic sources of Rare Earth Element (REE) separation and processing capabilities. Solicitations are restricted to domestic sources, as defined in the Defense Production Act of 1950: “A business concern that performs in the United States or Canada substantially all of the research and development, engineering, manufacturing, and production activities required of such business concern under a contract with the United States relating to a critical component or a critical technology item; and that procures from domestic sources substantially all of any components and assemblies required under a contract with the United States relating to a critical component or critical technology item.” Territories and possessions of the United States, and the District of Columbia are considered part of the domestic United States.

Proposed capabilities are *required to separate and process an overall minimum annual yield of 500 Metric Tons (MT) of end product from a Light Rare Earth Element (LREE) bearing feedstock* (ores and mineral concentrate, recycled feedstock, industrial or mining byproducts, or any other feedstock). The proposed capabilities are *required to produce LREE end products of neodymium (Nd)/praseodymium (Pr) mixed oxide and/or neodymium oxide (Nd₂O₃) and praseodymium oxide (Pr₆O₁₁)*. The proposed capabilities are also *required to have the ability of separating and processing to the end products of lanthanum oxide (La₂O₃) and samarium-europium-gadolinium (SEG+) concentrate*. The above end products are additionally *required to have the following minimum Total Rare Earth Oxide (TREO) percentages and purities:*

MATERIAL	Minimum Percentage of TREO (%)	Minimum Purity of REO/TREO (%)
Praseodymium/Neodymium Mixed Oxide	99	99.5*
Neodymium Oxide (Nd ₂ O ₃)	99	99.5
Praseodymium Oxide (Pr ₆ O ₁₁)	99	99.5
Lanthanum Oxide (La ₂ O ₃)	96.5	99.5
*Combined REO of Nd ₂ O ₃ and Pr ₆ O ₁₁		

2.0 BACKGROUND

Title III of the DPA of 1950, as Amended (50 U.S.C. App. § 2061 et seq.) grants the President 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. It has been determined that the domestic production capability for separation and processing of REEs is essential to the national defense.

3.0 OBJECTIVE & APPROACH

The objective of this effort is to modify, expand, or equip one or more domestic sources of REE separation and processing capability for Government and commercial needs in order to restore and protect the REE supply chain. Proposed capabilities are required to separate and process an overall minimum annual yield of 500 MT of end product from a Light Rare Earth Element (LREE) bearing feedstock.

This effort is anticipated to have a Technical Period of Performance (TPOP) of no more than 48 months with 3 months for the Final Report, for a total Period of Performance (POP) of no more than 51 months.

4.0 REQUIREMENTS AND RESTRICTIONS

The offeror shall prepare a proposal, which will include a Statement of Work (SOW) to meet or exceed the objectives and requirements of this SOO.

A. Program Management, Administration, and Reporting

The Awardee(s) are required to:

1. Conduct a Technical Project Kickoff Meeting no later than 30 days After Receipt of Agreement or Award (ARA).
2. Manage and implement the project. Monitor and control the project's cost, schedule, and performance parameters.
3. Establish a cumulative monthly expenditure profile baseline for the Government funds and cost share. Track the actual and forecasted monthly expenditures against the baseline and report it to the Government quarterly.

4. Participate on the project's Integrated Product Team (IPT) and interface with DPA Title III project managers and Government contracting (agreements) personnel.
5. Conduct quarterly Project Management Reviews (PMRs) and regular Technical Interchange Meetings (TIMs) as required. Up to two PMRs per year shall be conducted at the Awardee's location. At least one PMR per year shall be conducted at the DPA Title III Program Offices in Dayton, OH and remaining PMRs shall be conducted by conference call. Key sub-awardees and/or subcontractors should actively participate in PMRs.
6. Insure, maintain, operate and service all Government and non-Government owned capital equipment and tooling (if any) required. Update and provide the Government equipment Property Control List at the time of quarterly PMRs and as required.
7. Prepare for a No Cost Monitoring Phase (NCMP) after the conclusion of the TPOP to demonstrate and support the long-term goals of this project. This NCMP shall provide the Government with insight into the continuing operations and business viability of the Awardee(s), and continued insight into equipment utilization, in the event equipment is procured on this project.
8. Establish and track Key Performance Parameters (KPPs) with the IPT concurrence. Report KPP performance at quarterly PMRs and as required.
9. Conduct the following reviews as appropriate: preliminary and critical design reviews, test readiness reviews, manufacturing readiness reviews, post-test reviews, and any reviews as required for addressing anomalies.
10. Baseline, interim (as required), and final Manufacturing Readiness Assessments (MRAs) shall be conducted in collaboration with the Government.
11. Manage, including flow-down requirements, partnerships or other business arrangements needed to complete productization and qualification of the tool/equipment required for this project.
12. Comply with all relevant federal, state, and local safety, transportation and environmental laws, regulations, and permit conditions.

B. Strategic Business Plan

The Awardee(s) shall submit a Strategic Business Plan 6 months ARA and on an annual basis thereafter.

1. Develop, implement, and maintain a Strategic Business Plan to include but not be limited to:
 - a. A minimum outlook of four years, preferably six years, including all financial statements, actual and pro forma forecasts.
 - b. Key issues related to the establishment of a competitive and commercially viable merchant supplier of separated and processed REEs.
 - c. Performance-to-plan evaluations at regular intervals, with management review comments, to the IPT so long as an Agreement relationship exists.
 - d. Provide complete company ownership structure, including all holding companies or intermediary operating companies. If applicable, identify all foreign ownership/investments in your company. Foreign ownership/investments are any non-US citizens or non-US based organizations, possessing any type of financial investment, passive or active, in your company.

C. Marketing Plan

The Awardee(s) shall develop, implement, and maintain a Comprehensive Marketing Plan to include, but not be limited to the following. Update and submit the plan 6 months ARA and on an annual basis thereafter.

1. Current and future customer needs for separated and processed REEs.
2. Survey, be responsive to, and report to the IPT on (U.S. Government and commercial) customer needs, requests, and trends for separated and processed REEs.
3. Performance-to-plan updates at regular intervals, including reports on business capture plans (target business awards, actual awards, and missed opportunities), to the IPT so long as an Agreement relationship exists.

D. Technical Requirements

The Awardee(s) are required to perform:

1. Modify, expand, or equip a REE separation and processing capability to meet the requirements in **Section 1.0**.
2. Install and/or commission REE separation and processing equipment.
3. Qualify/certify REE separation and processing capability, equipment, and end products.
4. Meet and/or exceed all relevant federal, state, and local safety, transportation, and environmental laws, regulations, and permit requirements for all operations.
5. Obtain all relevant local, state, national, and federal permits required for all operations.
6. Conduct shakedown testing, which requires operation for a negotiated number of cumulative run hours or for a specified number of months to allow collection of technical and cost information. Report the data to the IPT.
7. Achieve a minimum of Manufacturing Readiness Level (MRL) 8 by the end of the TPOP.
8. Provide updates of the existing process workflow, performance capability, and quality levels (i.e. percent of TREO and purity of REO/TREO) in the Technical Operating and Performance Reports.
9. Provide updates on baseline metrics for all key production processes, materials, and products in the Technical Operating Performance Reports or the Recipient's Progress, Status, and Management Report (TIA Article 7.052).

5.0 OPERATIONS SECURITY

The following statements apply to the objectives and requirements of this SOO. *The SOW is additionally required to include the following statements:*

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 REQUIRED DELIVERABLES

The Awardee(s) will have the following required deliverables detailed and agreed upon in the Technical Investment Agreement (TIA):

Deliverable Item	Submittal Requirement
TIA Article 4.030 - Audit Report	As Required

TIA Article 7.040 – Final Report	Draft Final report due 30 days after completion of the TPOP, Final Report due 90 days after completion of TPOP
TIA Article 7.050 – Funds and Man-hour Expenditure Report	Quarterly
TIA Article 7.052 – Recipient’s Progress, Status, and Management Report	Quarterly/ As Required
TIA Article 7.054 – Strategic Business Plan	6 months ARA*/ Updated Annually
TIA Article 7.055 – Property Control List	Quarterly/ As Required
TIA Article 7.057 – Presentation Materials	As Required
TIA Article 7.060 – Marketing Plan	6 months ARA*/ Updated Annually
Cost and Schedule Variance Reports	Quarterly
Technical Operating Performance Reports	Quarterly
Production Cost Report	To be Determined (TBD)
Master Schedule	Quarterly/ As Required
Copy of Recipient’s Billing Voucher	As Required
Manufacturing Readiness Assessment (MRA)	As Required
Final/Approved Environmental Compliance Documentation	Within 30 days of Final Approval
* After Receipt of Agreement or Award (ARA)	