Addendum 1—Energetics

1 ADDENDUM INTRODUCTION

1.1 This addendum serves to supplement the Defense Threat Reduction Agency's (DTRA) Research and Development Innovations Broad Agency Announcement (BAA), HDTRA1-22-S-0003. This research opportunity expands on the Research & Development thrust area of "Control, disable, and defeat current and emerging WMD threats". This addendum is open and in effect from April 2023 (starting with date of posting) through 2 June 2023 (the final date for Phase I submissions).

2 BACKGROUND

2.1 In this addendum, DTRA's Research and Development Directorate seeks to identify companies that can design, develop, manufacture, model or test hand emplaced kinetic defeat tools in support of Counter Weapons of Mass Destruction objectives. DTRA understands that the development, manufacture, and test of hand emplaced kinetic defeat tools requires significant capital expenditures as well as a diverse and experienced workforce. Additionally, the defense industrial base has significantly consolidated in the last three decades, which amplifies DTRA's need to identify suitable companies to support future energetic requirements. Given the constraints associated with the energetic industry base, all companies that offer development, manufacturing, or testing capabilities are encouraged to respond to this BAA addendum.

3 OBJECTIVES

3.1 This effort is focused on assessing available industrial capabilities to develop, manufacture, and test energetic materials and tools for use in specialized Department of Defense (DoD) applications. Responding companies are encouraged to provide specific details on their capabilities and expertise.

3.2 As BAA responses are assessed based on specific capabilities, DTRA will conduct follow on engagements and in some cases on-site visits with companies to discuss specific R&D objectives.

4 TECHNICAL AREAS OF INTEREST

4.1 DTRA is interested in various processes involved in the development, manufacturing, and testing of energetic materials and tools for use in specialized defense applications. Performers who demonstrate capabilities in the following will be considered:

4.1.1 General industry capabilities to include: Experience with DoD contracting for loaded ordnance items, development, manufacture, or testing of hand-emplaced ordnance and

energetic tools, facility clearance, range facility clearance, personnel with active security clearances, and secure communications capability.

4.1.2 Specific development capabilities to include: requirements development and analysis; architectural design; detailed design with CAD or CAE software; design analysis; component testing, implementation, system testing, integration, verification, and validation; analysis of design response to environmental threats; function analysis; performance analysis; analysis of target effects; and safety system analysis.

4.1.3 Specific prototyping capabilities to include: rapid prototyping (Fuse Deposition Modeling (FDM), Stereolithography, etc.), sawing bar stock preparations, waterjet cutting, milling and drilling, turning, grinding, heat treatment, surface plate with height stand indicator, coordinate measuring machine, flexible mold casting / resin casting, forming (sheet metal fabrication), welding / joining, hand assembly, electronic fluid dispensing (adhesives / joining / sealing), pressing / swaging assembly, printed wiring board / circuit prototyping, circuit card assembly, and firmware development.

4.1.4 Specific manufacturing capabilities to include: acquisition of inert components, receiving inspection, assembly and marking operations, procurement and storage of explosives, production, and storage of loaded assemblies, producibility analyses, production system development, and production operations.

4.2 In addition to these specific capabilities, responding companies are asked to describe the various aspects of their pertinent supporting capabilities. DTRA is specifically interested in the following:

4.2.1 Explosive storage capabilities, e.g. capacity, compatibility, accessibility, lead time, and average space availability.

4.2.2 Ordnance / charge loading capabilities for the following: drying, pressing (available tonnage, composition type), mix/cast/cure processing (mixer types, capacities, compositions, size of cure bay), melt & cast processing (kettle capacities and which compositions), hand loading, extrusion, injection, machining of explosive billets, radiographic inspection capabilities, quality assurance laboratory for chemistry composition and mechanical testing, and other applicable loading capabilities.

4.2.3 Production support capabilities to include: machine shops, maintenance shops, procurement, quality, and production planning and supervision.

4.2.4 Testing capabilities for the following: loaded item storage and handling, environmental testing of loaded items, performance testing of loaded items, reliability testing of loaded items, ammunition and explosive hazard classification testing, insensitive munitions testing, and any other pertinent testing capabilities.

4.3 Description of test ranges, to include any restrictions (environmental, seasonal, etc) and hours of operation. Companies are encouraged to provide photographs and overhead imagery of test ranges if possible.

4.3.1 Status of ranges: Are available ranges owned, leased, or contracted? If contracted, list subcontractor and describe subcontracting agreement.

4.3.2 List all available test range types, with TNT NEW equivalent limits for each of the following: Blast chambers, open-air ranges, water ranges, arena test ranges, and charge construction buildings (list facility square footage).

4.3.4 List physical security range control access features to include: gates, manned guard posts, intrusion detection systems, cameras, and any unsecured ranges or range support facilities.

4.3.5 Describe test range Standard Operating Procedure, to include misfire protocols.

4.3.5 For all available test ranges, list applicable instrumentation capabilities (and associated range) for the following: still photography, standard video, overhead video, drone video, high-speed video, blast pressure, heat flux, detonation velocity, fragmentation velocity, fiber optic or Dynansen probes to measure time of arrival, impulse pendulum test stand.

4.3.6 The ability to manufacture (or acquire) and position range targets (concrete and steel)

4.4 Describe prior work in support of the United States Government to include contracting experience and type to include Indefinite Delivery/Indefinite Quantity, Federal Acquisition Regulation contracts, and Economy Act actions.

4.4.1 Describe prior experience with the Other Transaction Agreement process to include membership in any consortiums.

5 MAJOR MILESTONES

DATE	EVENT
March 30, 2023	BAA addendum posted in SAM
March 30, 2023	Begin registration at the DTRA proposal website https://www.dtrasubmission.net
April 28, 2023	Deadline to submit questions to dtra.belvoir.rd.mbx.rd-baa-inbox@mail.mil (Unclass) or dtra.belvoir.rd.mbx.rd-baa-inbox@mail.smil.mil (up to SECRET/NOFORN)
May 19, 2023	Questions and answers posted to SAM
June 2, 2023	Final day to propose to BAA addendum with Phase I
NLT June 30, 2023	DTRA provides feedback to all offerors prior to any Phase II invitations

6 FORMAL PROPOSAL SUBMISSION INSTRUCTIONS

6.1 See BAA HDTRA1-22-S-0003 Amendment 1 (current version) for submission instructions. Note page limitations for Phase I white paper and quad chart. Adhere to BAA instructions, which will entail limiting information to stay within the total page restriction.