Biomedical Advanced Research and Development Authority (BARDA)
Broad Agency Announcement (BAA)
(Solicitation No.)

Advanced Research and Development of Chemical, Biological, Radiological, and Nuclear Medical Countermeasures

(Insert Product Name)
Area of Interest Number (Insert No.)

Contractual Statement of Work

PREAMBLE

Independently, and not as an agent of the government, the contractor shall furnish all necessary services; qualified professional, technical, and administrative personnel; and material, equipment, and facilities not otherwise provided by the government under the terms of this contract, as needed to perform the tasks set forth below.

The government reserves the right to modify the budget, progress, schedule, or milestones to add or delete processes, schedules, or deliverables if the need arises. Because of the nature of this research and development (R&D) contract and the complexities inherent in this and prior programs, at designated milestones the government will evaluate whether work should be redirected or removed, or whether schedule or budget adjustments should be made. The government reserves the right to change the product, process, schedule, or events to add or delete part or all of these elements as the need arises.

Overall Objectives and Scope

The overall objective of this contract is to advance the development of (insert product name) as a/an (insert short description) type of countermeasure for the treatment of (insert product solution or infectious agent). The scope of work for this contract includes (insert activities to be performed, e.g., preclinical, clinical, and manufacturing development activities that fall into the following areas: non-clinical efficacy studies; clinical activities; manufacturing activities; and all associated regulatory, quality assurance, management, and administrative activities). The R&D effort for the (insert product name) will progress in specific stages that cover the base performance segment (I) to be labeled Contract Line Item Number (CLIN) 0001 and option segments (II to V) to be labeled CLINs 0002 to 0005 as specified in this contract. The contractor must complete specific tasks required in each of the discrete work segments. The scope of work is broken into the following five phases (CLINs), which are discrete work segments:

I. Pilot Studies
II. Non-Clinical Efficacy (small animal) and initial Clinical Safety Phase
III. Good Manufacturing Practice (GMP) Manufacturing Scale-up and Non-Clinical (large animal) Efficacy
IV. Clinical and Pivotal Non-Clinical Studies Phase
V. New Drug Application (NDA) Filing Phase

(Note: The number of CLINs can vary depending on the requirement.)

1. PHASE I: PILOT STUDIES

(Insert a one paragraph summary of proposed activities to be completed in the base year.)

1.1 Program Management

The contractor shall provide the following as outlined below and in the contract deliverables list (Insert Article No.)

1.1.1 The overall management, integration, and coordination of all contract activities, including a technical and administrative infrastructure to ensure the efficient planning, initiation, implementation, and direction of all contract activities;

1.1.2 A principal investigator (PI) responsible for project management, communication, tracking, monitoring, and reporting on status, progress, and modification to the project requirements and timelines, including projects undertaken by subcontractors. The contract deliverables list identifies all contract deliverables and reporting requirements for this contract;

1.1.3 A project manager (PM) with responsibility for monitoring and tracking day-to-day progress and timelines; coordinating communication and project activities; costs incurred; and program management. The contract deliverables list identifies all contract deliverables and reporting requirements for this contract;

1.1.4 A BARDA liaison with responsibility for effective communication with the Contracting Officer (CO) and Contracting Officer's Representative (COR). The liaison may be the PI or PM;

1.1.5 Administrative and legal staff with responsibility for developing compliant subcontracts, consulting, and other legal agreements; ensuring timely acquisition of all proprietary rights, including intellectual property (IP) rights; and reporting all inventions made in the performance of the contract;

1.1.6 Administrative staff with responsibility for financial management and reporting on all activities conducted by the contractor and any subcontractors;

1.1.7 Contract Review Meetings;

1.1.7.1 The contractor shall participate in regular meetings to coordinate and oversee the contract effort conjointly with the CO and COR. Such meetings may include, but are not limited to, meeting of the contractors and subcontractors to discuss clinical manufacturing progress, product development, product assay development, scale-up manufacturing development, clinical sample assays development, preclinical/clinical study designs and regulatory issues; meetings with individual contractors and other government officials to discuss the technical, regulatory, and ethical aspects of the program; and meetings with technical consultants to discuss technical data provided by the contractor; and

1.1.7.2 The contractor shall participate in teleconferences every two weeks with the CO and COR to discuss the performance of the contract. Teleconferences or additional face-to-face meetings may be more frequent at the request of the CO.

1.1.8 Integrated Master Schedule (IMS)

1.1.8.1 Within 30 calendar days of the effective date of the contract, the contractor shall submit a first draft of an updated IMS to the CO and COR for review and comment. The IMS shall be incorporated into the contract and will be used to monitor performance of the contract. The contractor shall include the key milestones and Go/No-Go Decision Gates (see 1.1.9.2).

1.1.9 Integrated Master Plan (IMP)

1.1.9.1 Work Breakdown Structure (WBS): The contractor shall utilize a WBS template agreed upon by the government for reporting on the contract. The contractor shall expand and delineate the Contract Work Breakdown Structure (CWBS) to a level agreed upon by the government as part of their IMP for contract reporting. The CWBS shall be discernable and consistent. The CO may require the contractor to furnish WBS data at the work package level or at a lower level if there is significant complexity and risk associated with the task.

1.1.9.2 Go/No-Go Decision Gates: The IMP outlines key milestones with "Go/No-Go" decision criteria (entrance and exit criteria for each phase of the project). The project plan should include, but not be limited to, milestones in manufacturing, non-clinical and clinical studies, and regulatory submissions.

1.1.9.3 Project Management Plan: In the management of this contract, the contractor shall utilize Project Progress Management tools/techniques to track and monitor the cost and schedule of the project. The contractor and the government agree that at a minimum, the contractor shall utilize

the cost and schedule tools/techniques in the contract deliverables list (Insert Article No.)for project management purposes. The contractor shall submit the project progress management report to the CO and COR on a monthly basis.

(Note: Earned Value Management System (EVMS) may be required by the CO for measuring the progress and performance of the project. If EVMS is required, the contractor shall comply with the principles of EVMS in the management of this contract.)

1.1.10 Decision Gate Reporting: Upon completion of a stage of the product development, as defined in the agreed upon IMS and IMP, the contractor shall prepare and submit to the CO and COR a Decision Gate Report that contains (i) sufficient detail, documentation, and analysis to support successful completion of the stage according to the predetermined qualitative and quantitative criteria that were established for Go/No-Go decision making; and (ii) a description of the next stage of product development to be initiated and a request for approval to proceed to the next stage of product development.

1.1.11 Risk Management Plan: The contractor shall develop a risk management plan within 90 days of contract award highlighting potential problems and/or issues that may arise during the life of the contract; their impact on cost, schedule, and performance; and appropriate remediation plans. This plan should reference relevant WBS elements where appropriate. Updates to this plan shall be included, at a minimum, on a quarterly basis (every three months) in the monthly Project Status Report (see 1.1.14).

Performance Measurement Baseline Review (PMBR): The contractor shall submit a plan for a PMBR to occur within 90 days of contract award. At the PMBR, the contractor and the government shall mutually agree upon the budget, schedule, and technical plan baselines (Performance Measurement Baseline [PMB]). These baselines shall be the basis for monitoring and reporting progress throughout the life of the contract. The PMBR is conducted to achieve confidence that the baselines accurately capture the entire technical scope of work, are consistent with contract schedule requirements, are reasonably and logically planned, and have adequate resources assigned. The goals of the PMBR are as follows:

i. Jointly assess areas such as the contractor's planning for complete coverage of the SOW, logical scheduling of the work activities, adequate resources, and identification of inherent risks;
ii. Confirm the integrity of the PMB;
iii. Foster the use of EVM or other Project Management Plan tool(s) as a means of communication;
iv. Provide confidence in the validity of contractor reporting;
v. Identify risks associated with the PMB;

vi. Present any revised PMBs for mutual agreement;
vii. Present an IMS: The contractor shall deliver an initial program level IMS that rolls up all time-phased WBS elements down to the activity level. This IMS shall include the dependencies that exist between tasks and shall be agreed to and finalized at the PMBR; and
viii. Present the Risk Management Plan.

1.1.12 Deviation Request: During the course of contract performance, in response to a need to change IMS activities as baselined at the PMBR, the contractor shall submit a Deviation Report. This report shall request a change in the agreed upon IMS and timelines. This report shall include: (i) discussion of the rationale/justification for the proposed change; (ii) options for addressing the needed changes from the agreed upon timelines, including a cost-benefit analysis of each option; and (iii) recommendations for the preferred option that includes a full analysis and discussion of the effect of the change on the entire product development program, timelines, and budget.

1.1.13 Monthly and Annual Reports: The contractor shall deliver Project Status Reports on a monthly basis. The reports shall address the items below cross referenced to the SOW, WBS, IMS, and EVM or other Project Management Plan tool(s):

i. Executive summary highlighting the progress, issues, and relevant manufacturing, non-clinical, clinical, and regulatory activities;
ii. Progress in meeting contract milestones, detailing the planned progress and actual progress during the reporting period, explaining any differences between the two and corrective steps;
iii. Updated IMS;
iv. Updated EVM/other Project Monitoring Tool(s);
v. Updated Risk Management Plan (every three months);
vi. Three-month rolling forecast of planned activities;
vii. Progress of regulatory submissions; and
viii. Estimated and actual expenses.

1.1.14 Data Management: The contractor shall develop and implement data management and quality control systems/procedures, including transmission, storage, confidentiality, and retrieval of all contract data;

1.1.15 Provide for the statistical design and analysis of data resulting from the research; and

1.1.16 Provide raw data or specific analyses of data generated with contract funding to the CO and COR, upon request.

1.2 Non-Clinical Toxicology (WBS 1.2)

1.2.1 Develop protocol and implement single ascending dose toxicology study with (insert product name) in a suitable animal model such as (name one or more candidates) suitable for supporting safety of (insert product name) for clinical use. Complete final study report; and

1.2.2 Develop protocol and implement multiple ascending dose toxicology study with (insert product name) in a suitable animal model such as (name one or more candidates) suitable for supporting safety of **(**insert product name) for clinical use. Complete final study report.

(Insert a short description of proposed animal toxicology studies as separate tasks or subtasks, including submission of study report. State N/A if non-applicable.)

1.3 Non-Clinical Studies (WBS 1.3)

1.3.1 Conduct a first pilot murine (insert proposed animal model) therapeutic efficacy challenge against (insert agent).

(Insert a short description of proposed animal efficacy studies as separate tasks or subtasks. As applicable, the range of activities could cover development and validation of animal models, demonstration of non-good laboratory practice (GLP) in vivo efficacy, pharmacokenetic/pharmocodynamic (PK/PD) studies, dose range finding (DRF) studies, maximum tolerated dose (MTD) studies, GLP animal efficacy studies, and any other animal study specific to the product.)

1.4 Clinical studies (WBS 1.4)

1.4.1 (Clinical Study Number) Develop protocol, commence study, and complete study report for Phase I ascending dose safety with (insert product name).

(Insert a short description of proposed clinical studies specific to the product (safety studies, dose escalation, pediatric population, etc.) as separate tasks or subtasks. As applicable, the range of activities should cover development of clinical protocol, Institutional Review Board (IRB) approvals, initiation/completion of the study, and submission of study report.)

1.5 Regulatory (WBS 1.5)

1.5.1 Engage the Food and Drug Administration (FDA) on a path to support the use of the product for the specific indication;

1.5.2 Prepare materials for and requesting, scheduling, and participating in all meetings with the FDA, including meetings to review Emergency Use Authorization (EUA) and/or all other data packages; and

1.5.3 Provide BARDA with (i) the initial draft minutes and final draft minutes of any formal meeting with the FDA, and (ii) final draft minutes of any informal meeting with the FDA.

1.6 Chemistry Manufacturing Controls (CMC) (WBS 1.6)

1.6.1 Commence pilot scale manufacturing of product. Initiate stability studies, product storage, etc.

(Insert a short description of proposed CMC activities as separate tasks or subtasks. As applicable, the range of activities could cover development of a manufacturing process for nonclinical and clinical studies, Active Pharmaceutical Ingredient (API) validation campaigns, GMP manufacturing of BDS, FDP, formulation, stability studies, and other studies specific to the product.)

Objective: *(Overall goal of expected accomplishments)*
Deliverable: *(Ultimate deliverable from Period of Performance)*
Go/No-Go: *(Indicate what must be accomplished before exercising option)*

2. PHASE II: (CLIN 0002) NON-CLINICAL EFFICACY AND INITIAL CLINICAL SAFETY PHASE

The contractor shall perform the following tasks and subtasks in accordance with the agreed upon IMS and IMP (defined in 1.1.8 and 1.1.9, respectively), which shall further detail the conduct of the specific tasks and subtasks.

2.1 Program Management (WBS 1.1)

2.1.1 Program management scope in base year (CLIN 0001) is consistent with program management scope in each option year.

2.2 Non-Clinical Toxicology (WBS 1.2)

(Insert a short description of proposed animal toxicology studies as separate tasks or subtasks including submission of study report. State N/A if non-applicable.)

2.3 Non-Clinical Studies (WBS 1.3)

(Insert a short description of proposed animal efficacy studies as separate tasks or subtasks. As applicable, the range of activities could cover development and validation of animal models, demonstration of non-GLP in vivo efficacy, PK/PD studies, DRF studies, MTD studies, GLP animal efficacy studies, contingency studies, and any other animal study specific to the product.)

2.4 Clinical Studies (WBS 1.4)

(Insert a short description of proposed clinical studies specific to the product (safety studies, dose escalation, pediatric population, etc.) as separate tasks or subtasks. As applicable, the range of activities should cover development of clinical protocol, IRB approvals, initiation/completion of the study, and submission of study report.)

2.5 Regulatory (WBS 1.5)

2.5.1 Engaging the FDA on a path to support the use of the product for the specific indication;

2.5.2 Preparing materials for and requesting, scheduling, and participating in all meetings with the FDA, including meetings to review EUA and/or all other data packages; and

2.5.3 Providing BARDA with (i) the initial draft minutes and final draft minutes of any formal meeting with the FDA and (ii) final draft minutes of any informal meeting with the FDA.

2.6 CMC (WBS 1.6)

(Insert a short description of proposed CMC activities as separate tasks or subtasks. As applicable, the range of activities could cover development of a manufacturing process for nonclinical and clinical studies, API validation campaigns, GMP, BDS, FDP, formulation, stability studies any other study specific to the product.)

Objective: *(Overall goal of expected accomplishments)*
Deliverable: *(Ultimate deliverable from Period of Performance)*
Go/ No-Go: *(Indicate what must be accomplished before exercising option)*

3. PHASE III: (CLIN 0003) GMP MANUFACTURING SCALE-UP AND NON-CLINICAL EFFICACY

The contractor shall perform the following tasks and subtasks in accordance with the agreed upon IMS and IMP (defined in 1.1.8 and 1.1.9, respectively), which shall further detail the conduct of the specific tasks and subtasks.

3.1 Program Management (WBS 1.1)

3.1.1 Program management scope in base year (CLIN 0001) is consistent with program management scope in each option year.

3.2 Non-Clinical Toxicology (WBS 1.2)

(Insert, if applicable, a short description of proposed additional non-clinical toxicology studies as separate tasks or subtasks. State N/A if non-applicable.)

3.3 Non-Clinical Studies (WBS 1.3)

(Insert, if applicable, a short description of proposed additional animal efficacy studies/contingency studies as separate tasks or subtasks.)

3.4 Clinical Studies (WBS 1.4)

(Insert, if applicable, a short description of proposed additional clinical studies as separate tasks or subtasks.)

3.5 Regulatory (WBS 1.5)

3.5.1 Engaging the FDA on a path to support the use of the product for the specific indication;

3.5.2 Preparing materials for and requesting, scheduling, and participating in all meetings with the FDA, including meetings to review EUA and/or all other data packages; and

3.5.3 Providing BARDA with (i) the initial draft minutes and final draft minutes of any formal meeting with the FDA and (ii) final draft minutes of any informal meeting with the FDA.

3.6 CMC (WBS 1.6)

3.6.1 Manufacture GMP lot of drug substance and fill GMP lot of drug product suitable for supplying clinical studies; and

3.6.2 Develop (insert product name) synthesis methods suitable for scale-up and economically viable commercial production.

(Insert, if applicable, a short description of proposed CMC activities as separate tasks or subtasks.)

Objective: *(Overall goal of expected accomplishments)*
Deliverable: *(Ultimate deliverable from Period of Performance)*
Go/No-Go: *(Indicate what must be accomplished before exercising option)*

4. PHASE IV: (CLIN 0004) CLINICAL AND PIVOTAL NON-CLINICAL STUDIES PHASE

The contractor shall perform the following tasks and subtasks in accordance with agreed upon IMS and IMP (defined in 1.1.8 and 1.1.9, respectively), which shall

further detail the conduct of the specific tasks and subtasks.

4.1 Program Management (WBS 1.1)

4.1.1 Program management scope in base year (CLIN 0001) is consistent with program management scope in each option year.

4.2 Non-Clinical Toxicology (WBS 1.2)

(Insert, if applicable, a short description of proposed additional non-clinical toxicology studies as separate tasks or subtasks. State N/A if non-applicable.)

4.3 Non-Clinical Studies (WBS 1.3)

(Insert, if applicable, a short description of proposed additional animal efficacy studies/contingency studies as separate tasks or subtasks.)

4.4 Clinical Studies (WBS 1.4)

(Insert, if applicable, a short description of proposed additional clinical studies as separate tasks or subtasks.)

4.5 Regulatory (WBS 1.5)

4.5.1 Generating all necessary data and preparing documentation for NDA submissions to regulatory agencies;

4.5.2 Preparing materials for and requesting, scheduling, and participating in all meetings with the FDA, including meetings to review Investigational New Drug (IND), EUA, and/or all other data packages; and

4.5.3 Providing BARDA with (i) the initial draft minutes and final draft minutes of any formal meeting with the FDA and (ii) final draft minutes of any informal meeting with the FDA.

4.6 CMC (WBS 1.6)

(Insert, if applicable, a short description of proposed CMC activities as separate tasks or subtasks.)

Objective: *(Overall goal of expected accomplishments)*
Deliverable: *(Ultimate deliverable from Period of Performance)*
Go/ No Go: ***(****Indicate what must be accomplished before exercising option)*

4.7 Phase V: (CLIN 0005) NDA Submission Phase

The contractor shall perform the following tasks and subtasks in accordance with the agreed upon IMS and IMP (defined in 1.1.8 and 1.1.9, respectively), which shall further detail the conduct of the specific tasks and subtasks.

4.8 Program Management (Consistent with section 2.1**) (WBS 1.1)**

4.8.1 Program management scope in base year is consistent with program management scope in each option year.

4.9 Non-Clinical Toxicology (WBS 1.2)

(Insert, if applicable, a short description of proposed additional non-clinical toxicology studies as separate tasks or subtasks. State N/A if non-applicable.)

4.10 Non-Clinical Studies (WBS 1.3)

(Insert, if applicable, a short description of proposed additional animal efficacy studies/contingency studies as separate tasks or subtasks.)

4.11 Clinical Studies (WBS 1.4)

4.11.1 Compile integrated summary of safety (ISS) for NDA submission**.**

4.12 Regulatory (WBS 1.5)

4.12.1 Generating all necessary data and preparing documentation for NDA submissions to regulatory agencies;

4.12.2 Submitting NDA documentation to the FDA in a timely manner, consistent with timelines set out in the contract and by the FDA;

4.12.3 Preparing materials for and requesting, scheduling, and participating in all meetings with the FDA, including meetings to review IND, EUA, and/or all other data packages; and

4.12.4 Providing BARDA with (i) the initial draft minutes and final draft minutes of any formal meeting with the FDA and (ii) final draft minutes of any informal meeting with the FDA.

4.13 CMC

Insert, if applicable, a short description of proposed CMC activities as separate tasks or subtasks.

5. OTHER ITEMS

5.1 Facilities, Equipment, and Other Resources (Insert Section No.)

The contractor shall provide equipment; facilities and other resources required for implementation of the SOW dated (insert date of SOW version) to comply with all Federal and HHS regulations in:

5.1.1 The humane care and use of vertebrate animals;

5.1.2 The acquisition, handling, storage, and shipment of potentially dangerous biological and chemical agents, including select agents under biosafety levels required for working with the biological agents under study;

5.1.3 The production, characterization, and release testing of active pharmaceutical ingredient and final drug product under cGMP;

5.1.3.1 The design and conduct of NDA-enabling non-clinical studies under GLP; and

5.1.4 Design and conduct clinical trials in humans under GCP.