GENERAL INFORMATION

1. My research is not geared specifically to meet the ReSource program goals. Is there an alternate solicitation that I can respond to?

A: Yes. DARPA/BTO has an office-wide solicitation (HR001119S0048) for this purpose. Responses are being collected through April 23, 2020. Any innovative ideas can be submitted to the BTO office-wide solicitation at any time.

2. Will the Proposers Day slides and videos be posted online?

A: Yes, information relayed during the Proposers Day will be made available on the BTO section of the DARPA Opportunities page: http://www.darpa.mil/work-with-us/opportunities.

3. Is Dr. Bextine available for a call to discuss our proposed approach?

A: We will not be taking any program-related calls/meetings. The best way to determine the applicability of and level of interest in your approach is through the submission of a proposal abstract. The BAA describes the program, including metrics, in detail. If you have specific questions, please submit them by email to ReSource@darpa.mil. Please be aware that your question and its answer may be published on this FAQ page, after the question has been revised to remove proprietary information.

4. Do I need to submit an abstract? What is the advantage of submitting an abstract? Does my abstract need to match the full proposal submitted? If an Abstract has been submitted, can the Program Manager (PM) direct whether or not a full proposal should be undertaken?

A: Abstracts are strongly encouraged, but not required, to submit a full proposal. DARPA will provide feedback for each abstract submitted.

DARPA intends to respond to abstracts with a statement as to whether DARPA is interested in the idea within 5-10 business days of receipt. If DARPA does not recommend the proposer submit a full proposal, DARPA will provide feedback to the proposer regarding the rationale for this decision. Regardless of DARPA’s response to an abstract, proposers may submit a full proposal. DARPA will review all full proposals submitted using the published evaluation criteria and without regard to any comments resulting from the review of an abstract.

Finally, DARPA understands that final proposals and team make-up may vary somewhat from initial abstracts as content of teams and concepts proposed matures during preparation of the proposals.

Abstract feedback will be provided as it relates to the likelihood of the proposed work to satisfy the goals and milestones of the ReSource program outlined in the BAA. Although the Abstract response letter from the PM will either encourage or discourage submission of a full proposal, the process of undertaking a full proposal submission is ultimately at the proposer’s discretion. All submitted proposals will be reviewed.
according to the criteria in the BAA.

5. **Can a performer or individual participate on more than one team?**

A: Yes. A person, institution, or company may be part of more than one team.

The proposer should be very clear as to how hours will be charged in each proposed effort and describe what safeguards are in place to ensure that time is not double billed.

6. **Can Federally Funded Research and Development Centers (FFRDCs) or other Government Entities submit proposals or apply as prime organizations?**

A: Yes, FFRDCs and government entities can submit proposals if they meet certain criteria specified in BAA Section 3.1.1. Note that to avoid potential conflicts of interest, FFRDCs and other government entities, if selected for proposer work, will not be eligible for IV&V work.

7. **How is the scientific review process conducted for ReSource proposals?**

A: All proposals are reviewed according to criteria set forth in the BAA (Section 5, Application Review Information). Scientific/technical review will be conducted by a team of Government (from DARPA and other Government agencies) and non-Government reviewers with expertise in relevant scientific areas. Non-conforming proposals may be removed from consideration.

8. **Can foreign researchers participate?**

A: Yes. Per the BAA, “Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.”

**CONTRACTING/COST**

9. **How much funding is available? What is the expected size of an award?**

A: To avoid biasing the proposals that are submitted, DARPA is not defining an anticipated budget at this time and will not predetermine award amounts. However, typical DARPA program budgets range from $30M-$70M over 3-5 years.

Proposers are required to provide a well-justified budget appropriate for the scope of the proposed work. Proposed costs should be based upon how much funding is required to perform the tasks you feel are necessary to meet the objectives of the ReSource program. Proposals will be evaluated for Cost Realism in accordance with Section 5 of the BAA.

If the proposal is selected for award, a Government contracting officer will negotiate the terms of the award. During this negotiation, every aspect of the statement of work and cost proposal will be reviewed. Please ensure that all of the instructions in HR001119S0084, including the required checklist in Appendix 1. This will enable the government contract office to expedite negotiations.

10. **Does DARPA have any guidance about what start date to use for costing purposes?**

A: May 2020 can be used as a notional start date.

11. **Is DARPA considering Grants for this effort?**

A: No. The types of instruments that may be awarded are procurement contracts, cooperative agreements, or Other Transactions Agreements (OTAs).
PROGRAM STRUCTURE

12. How many teams are expected?
A: No specific number of teams are expected. Multiple awards are anticipated.

13. How are teams evaluated?
A: The proposed approach will be evaluated as specified in Section 5 of the BAA.

14. Does the institution assigned for the program management need to be the prime in the proposal?
A: No. However, as the BAA states, the Management Plan must: "provide a clear description of the team’s organization including an organization chart that includes, as applicable: the programmatic relationship of team members; the unique capabilities of team members; the task responsibilities of team members, the teaming strategy among the team members; and key personnel with the amount of effort to be expended by each person during each year."

15. Is it acceptable to make the technology open source as a part of the technology transition strategies?
A: Yes.

ABSTRACTS/PROPOSALS

16. Does every proposal need to contain all of the technical areas outlined in the BAA (i.e., do the release, breakdown, buildup, and recovery have to be addressed in submission)?
A: Yes. All submissions must address all elements of the ReSource program as outlined in the BAA.

17. Do resumes have to be in a specific format?
A: No.

18. Can proposers upload their abstracts directly?
A: It is encouraged that PIs upload their abstracts directly, although the full proposal submission is generally done at the institutional or organizational level through the office of sponsored research or contracting department.

TECHNICAL: GENERAL

19. What is your attitude towards (fill in the blank) technology?
A: We will not comment on specific technologies. Proposed technologies and approaches must fit within the boundaries and spirit of the ReSource Program.

20. Are solutions which incorporate non-biological approaches to the specified technical areas, SWaP requirements, and program metrics considered responsive?
A: Yes.

21. How should we address technical risks?
A: Proposed approaches should identify potential risks and their mitigation strategies into their proposal to meet the necessary milestones and deliverables. Technical approaches should be engineered to be hardy and dependable as specified in the BAA.

22. Genetic biocontainment was discussed as an interest, but was not mentioned in the BAA. Is this within the scope of the program?
A: Yes. The potential for unintended targets will be evaluated during the course of the program by the appropriate regulatory authorities, an Ethical Legal and Societal Implications (ELSI) panel, and DARPA. Biosafety is a top priority for the ReSource program.
23. Are thermal processes to prepare waste as input for biochemical processes of biological organisms that provide the required end materials considered responsive to the call?
A: Yes. Thermal processes to prepare waste as input for biochemical processes of biological organisms that provide the required end materials are considered responsive to the call. Proposed approaches should comply with designated Size, Weight, and Power (SWaP) objectives and metrics outlined in the BAA.

24. Are ocean-based operations in scope of the call?
A: Ocean-based operations are in scope as long as they can rationally support one of the two tracks (Section 1.1) as outlined in the BAA.

25. Should the process be designed toward a specific environment?
A: Yes, processes should be tailored to a proposed concept of operations, Section 1.1.

26. How will military and civilian applications of technologies be evaluated?
A: Section 1.6.7 and Section 2H provide information about how technology transition plans/outcome will be evaluated.

TECHNICAL: Military Waste and Products

27. Will DARPA provide the substrate (waste input) for the research teams?
A: DARPA will not provide the waste in Phases 1&2. For the Phase 3 demonstration, DARPA will identify the input waste stream to be used.

28. Can the input of living organisms, such as insects, be included into the process?
A: Yes. Proposed approaches to process scavenged waste inputs derived from austere environments that are deplete of resources are in scope. However, due to unknowns of availability in the field, proposed approaches should not require the availability of any specific type of input that is not described in the BAA. Food wastes are also in scope and referenced in the BAA.

29. Are waste inputs such as black water or human waste in scope?
A: Yes. All performers will be required to follow the appropriate regulations and guidelines for generating a useable product (e.g., military specification and food-grade). Keeping this in mind, both judicious use of water, as part of the input to drive the system process, and water type choice (e.g., ocean water, grey water, fresh water, and black water) will be stringently evaluated. Due to unknowns of availability in the field, proposed approaches should not require the availability of any specific type of waste water.

30. Can we assume waste will be presorted? Should we propose or anticipate collection mechanisms? Plastic versus food? Wet versus dry? Would the proposed system have to provide this function?
A: No presorting should be assumed. Military waste streams can have a wide variance of composition. Therefore, the proposed process should reliably convert inputs regardless of potential contaminating elements, see Section 1.3.1.

Any sorting required by your proposed process should be part of an integrated system for either Stabilization or Expeditionary/Special Operations.

31. Are engineered plastics in scope for inputs?
A: No. Although engineering novel plastics and the engineering of “the plastic of the future” can be part of a complimentary part of the proposed effort, proposers should be aware that demonstrations include DARPA-provided DoD waste. Hence, technologies should be designed to accomplish deconstruction of these waste types (Section 1.3.1).
32. Does polyethylene replacement fit into the BAA in regard to TA1 and the demonstrations?
A: No, but the development of “new plastics” is in scope and can be incorporated as part of the effort. Plastics engineered to be more easily deconstructable may not be used to fulfill TA/demonstration criteria and metrics.

33. Is there any interest in lubricant reclamation?
A: Yes, fouled lubricant can be a potential input material, but the input metrics delineated in the BAA for described waste types and amounts must still be fulfilled. However, due to unknowns of availability in the field, proposed approaches should not require the availability of any specific type of waste lubricants.

34. Does water input count toward the metrics?
A: No, the water input, whether waste or other types, would not count toward the metrics. However, water output can count as long as it is incorporated into a desired product.

35. Will DARPA provide descriptions of the MRE packaging available or the composition of plastics generated by warfighters?
A: No. The distribution of military waste is provided in BAA Table 2.

Natick representative Nicole Farhadi, ReSource Proposers Day speaker, has provided this link to the Combat Rations Database (ComRaD): https://www.hprc-online.org/nutrition/comrad#1.

This is a hosted site operated by the Consortium for Health and Military Performance (CHAMP) at the Uniformed Services University of the Health Sciences (USU). ComRaD is an interactive, educational Human Performance Resources Center website designed to provide accurate, up-to-date nutritional information on individual combat ration menus as well as the individual food components. Nutritional data are provided by the US Army CCDC Soldier Center and the United States Army Research Institute of Environmental Medicine (USARIEM).

36. Can the MRE heating pack be included as an input?
A: Yes, but the system should not rely on single specific/rare waste components, as stipulated in the BAA.

37. Is the taste or flavor of the macronutrient output a consideration?
A: No. Flavor is not a metric.

38. Would vitamins or antibiotics count as a value-added product?
A: Yes. The focus of the BAA is nutrition, water, and POLs, and any additional substantiated value-added molecules should be in line with the concept of operations, Section 1.3.2.

TECHNICAL: Size, Weight, and Power (SWaP)

39. Are there limitations to extra components, ingredients, or energy that need to be added to the system outside of refuse material?
A: No. In Section 1.3.3 the BAA states that the final system concept and all proposed inputs should be included for evaluation.

40. Does the system have to be fully automated?
A: No, reasonable separation and sorting protocols are acceptable to incorporate into the process. But groundbreaking automation technologies will be considered, and proposers should consider prototype integration goals for Phase 3.

41. Does the system need to be self-powered?
A: No. Available power is specified in Table 3.

42. Are the SWaP constraints for the empty container?
A: Yes, the weight does not include the addition of the waste input.
43. Does degradation of compounds have to be inside the cooler or can the proposed conversion technology happen/integrate in situ on the MRE wrapper?

A: No, the initiation of degradation does not have to begin inside of a “cooler”. DARPA will consider all approaches.

44. Is solar power in scope?

A: Yes, and the power generated from solar would not count toward the SWaP objective input.

45. Is the expectation is that all the energy to run the process be derived from the waste? Are the power requirements based on externally provided power? In other words, if power were produced in the course of waste processing, could it be used without counting against the power requirement metric? Is exportable electricity desirable?

A: No, the defined SWaP is given in Section 1.3.3 and if the system generates additional power it would not count toward the SWaP. Any power generated by the proposed system would not count toward the SWaP. The focus of the BAA is nutrition, water, and POLs, and any additional substantiated value-added molecules; the production of fuels and electricity is not a requirement.

Section 1.3.3 requests a process flow diagram be provided which encompasses anticipated extra inputs/outputs.

46. For the stabilization, would you see this as multiple modules deployed?

A: DARPA will consider all approaches. All equipment but must be contained within the defined footprint given in Section 1.3.3.

47. Are larger scale, larger footprint scenarios in scope?

A: No. Proposals should choose one of the two pre-defined tracks.

TECHNICAL: Program Metrics and Demonstrations

48. Are products that require further processing for use in scope? Will solutions that have a subset of outputs be acceptable, POLs & water only, not food? Does the BAA seek the production of several products or a single product (e.g., macronutrients or lubricants) that meets the stated metrics? Is a finished product the required result of downstream purification (e.g., an adhesive needing no further processing to use)?

A: All finished products should meet the military specification or food-grade standard (Table 6). Section 1.4 contains metrics for the amount of finished product (Tables 4-6 TA3B, both tracks) necessary for each track per phase.

In addition, the objectives, metrics and milestones for remainder of the output (Tables 4-6 TA1, both tracks) are given.

49. What are the metrics for the production of lubricant or adhesive from plastic? Are tactical fibers acceptable in Phase 3?

A: Section 1.4 delineates the amount of products which can be a POL. Tactical fibers are in the POLs category for the Expeditionary/Special Operation track.

50. Will there be demonstration with the warfighters within the PoP of the program?

A: Yes, we intend to deliver the finished products to the warfighter for evaluation, but food products will not be consumed.

51. For the Stabilization track, is sanitized water a desirable output?

A: Yes sanitized (and potable) water is responsive – the metrics for TA3B are given in Table 6.