

**NextSTEP-2 BAA: Appendix H
Human Landing System (HLS)
Question and Answer Log No. 1**

October 16, 2019

Proposal Preparation and Submission

- 1. Q: In Section 3.0, Eligibility Information, on page 12 of the BAA, it states that Jet Propulsion Laboratory (JPL) and the other listed institutions shall not be proposed as a Prime Contractor for this announcement. However, the sentence below lists who may participate as a team member. For clarification, can JPL participate on the HLS Appendix H as a team member?**

A: In section 4.6.3 of the SOW; paragraph (b)(1)(i) of the contract section H clause, *Use of Government Resources*; and paragraph (b)(2) of the contract section H clause, *Contractor Use of Government-furnished Equipment, Property, or Information*, JPL is identified as a "Performing Organization" along with NASA Centers. As such, JPL may not participate as a team member. However, JPL resources may be available to all interested offerors as described in the above-mentioned sections of the solicitation.

- 2. Q: Given the ITAR notice accompanying the HLS solicitation, please confirm that NASA is OK with offerors submitting proposal as password-protected files, with the password to follow in a separate email.**

A: Yes, Offerors may submit proposals as password-protected files with the password to follow in a separate email (collectively, all of which would comprise the Offeror's "proposal"). However, Offerors should note that submission of a proposal in this manner does not change the timeliness requirements of the solicitation, and are advised that all aspects of the proposal, including any passwords that are transmitted separately, must comply with the timeliness requirements of BAA section 4.2.2, *Submission Instructions*. For instances of a password transmission that complies with the timeliness requirements of the solicitation but in which the password does not work to successfully unlock some or all of the proposal content, NASA reserves the right to deem the proposal to be "late" and ineligible for further consideration.

- 3. Q: Please confirm that the offeror is to assume that information included in the attachments will be evaluated in the same manner as information included within the body of the proposal. For example, if the CONOPS contains technical information that the offeror believes is important for the Government's evaluation purposes, should that information be included in the proposal text as well as Attachment 23? Or does a reference from the technical volume to the CONOPS attachment suffice?**

A: As specified in BAA section 4.2.1, *Summary of Required Content and Proposal Organization*, the Offeror's proposal shall include Volume IV, "Proposal Attachments." In Volume I (Technical), II (Price), or III (Management), Offerors do not need to duplicate or otherwise repeat content contained within Volume IV except as determined necessary by the Offeror to fully explain its proposed approach and/or illustrate how various elements of the Offeror's proposal cohesively work together. In doing so, Offerors are also free to reference attachments contained in Volume

IV in Volumes I, II, or III. Offerors should note that as provided in BAA section 4.1, if unexplained discrepancies are found within an Offeror's proposal (for example, between an attachment and content within Volume I), the Government may use that as a basis for evaluating such proposals negatively, and if the discrepancies are significant, the Offeror may be deemed ineligible for award. The scope and content of attachments should conform to instructions in 4.4.6 of the BAA and will be evaluated as described in the main body of the BAA.

4. Q: Please confirm that the offeror is to provide any proposed alternate standards (rather than simply a statement saying it plans to propose alternate standards) as part of Attachment 27.

A: Correct, alternate standards, if any, should be included with proposals. As specified in BAA section 4.4.6.27, *Proposed Alternate Standards and Approaches*, in its Proposed Alternate Standards and Approaches proposal attachment, "the Offeror shall identify each instance in which it is proposing to not follow one of the NASA standards, and then provide the proposed alternate standard or approach that the Offeror will follow instead.... Offerors should use all proposed alternate standards and approaches, as well as any NASA standards that they plan to meet or exceed, to determine their FFP. In addition, the Offeror's overall technical approach in Volume I and related technical proposal attachments should reflect its proposed use of alternate standards and approaches, and should specifically reference these items when doing so would add clarity to the proposal overall" (internal references omitted; emphasis added).

5. Q: For the evaluation criteria, are you able to share if the technical is greater than or equal to the sum of price and management?

A: Per section 5.2.3 of the BAA, Factor 1 is more important than Factor 2, and Factor 2 is more important than Factor 3. Further, all evaluation factors other than price, when combined, are significantly more important than price.

6. Q: If a company meets the definition of a United States commercial provider as provided at 51 U.S.C. § 50101(7)(B), is that company considered a "United States commercial provider" as defined by the contract clause "Domestic Source Requirements?"

A: Yes; as provided in section 3 of the BAA, "Offerors are advised that performance of this Appendix will be subject to the eligibility and domestic sourcing requirements of both the Commercial Space Act of 1998 and the National Space Transportation Policy as effectuated through contract H clause – Domestic Source Requirements." Therefore, any Offeror who qualifies as a United States commercial provider under paragraph (B) of 51 U.S.C. § 50101(7) will be considered by NASA to be a United States commercial provider as required by the contract section H clause, *Domestic Source Requirements*.

If an Offeror does not meet the requirements of paragraph (B) of 51 U.S.C. § 50101(7), that Offeror will nonetheless be considered by NASA to be a United States commercial provider as required by the contract section H clause, *Domestic Source Requirements*, if the Offeror is a corporation, partnership, joint venture, association, or other entity which is organized or existing under the laws of the United States or any State, and whose controlling interest is held by United States citizens or permanent residents.

- 7. Q: Appendix H, 4.4.5.6 references Attachment 4 Small Business Subcontracting Plan. Unable to locate this attachment. Seeking details on the Small Business Subcontracting Plan requirements and details being sought (typically Sections L & M).**

A: Attachment 4 is to be provided by Offerors with their proposals. Section 4.4.6.4 provides additional details.

Technical Design

- 8. Q: Should the information in Attachment A08 - HLS Communications Information be considered requirements?**

A: No. Attachment A08 - HLS Communications Information is provided for reference only.

- 9. Q: Please confirm if NASA would be amenable to offerors proposing both a passive and an active adapter, so as to dock with either Gateway or Orion.**

A: Offerors should propose a single design concept for evaluation. In Attachment F, HLS-RQMT-001, see requirement HLS-R-0304, HLS Automated RPODU-Initial and HLS-R-0304a, HLS Automated RPODU-Sustained.

- 10. Q: For docking to Gateway, is a detachable active-active docking adapter required, or would it be acceptable to have an active adapter on the lander?**

A: Per 4.4.3.1 of the BAA, "for docking with the Gateway, Offerors shall include development of an International Docking System Standard (IDSS) and Gateway Docking System Standard (GDSS)-compliant Active-Active docking adapter or equivalent approach for successful docking, as well as delivery and attachment of the adapter to Gateway."

An equivalent approach would include using an active docking system. Therefore, it would be acceptable to have either an active docking system on the lander or a detachable active-active adapter.

- 11. Q: Will a contractor that leaves an active-active adapter at Gateway be evaluated more favorably than if they propose an active adapter on the lander?**

A: This design decision, in and of itself, will not result in being evaluated either more or less favorably. However, the decision may have impacts on several of the evaluation criteria identified in the BAA.

- 12. Q: Can NASA provide a CAD model of Orion mated to Gateway?**

A: Drawings of the 2024 Gateway configuration are included in HLS-IRD-001, within Attachment F (Requirements). These are included to help Offerors understand keep-out zones.

13. Q: The new GFE crew systems list no longer includes several required items. Should the contractor assume these required items are included in the threshold crew systems mass (865 kg) allocation?

A: Crew systems items no longer listed in HLS-RQMT-001, requirement HLS-R-0318, are not part of the 865 kg mass allocation.

14. Q: The Mass Delivery to the Lunar Surface values on the current slide (900, 1000) seem different from the final BAA.

A: This was an error in the original Industry Forum chart package. The values in the BAA are correct. A corrected Industry Forum chart package has been posted at <https://www.nasa.gov/nextstep/humanlander2>

15. Q: In Section 7.8.1.1 of NASA-STD-3001, Volume 2, NASA states that "The system shall provide a trash management system to accommodate (stow, neutralize, and dispose) all expected wet and dry trash, including sharp items, harmful chemicals, and biological and radioactive waste." What sort of radioactive waste does NASA anticipate? Is radioactive waste among the items providers would have to fly on a regular basis, or would it be only on a mission-by-mission basis?

A: At this time, NASA does not expect radioactive waste. However, if an Offeror's design concept and/or concept of operations would result in radioactive waste, HLS-HMTA-0138 Trash Accommodation would apply. Note that the information contained within Appendix C of HLS-RQMT-001 provided as part of Attachment F (Requirements) has been tailored from NASA-STD-3001, NASA Space Flight Human Systems Standard Volume 2, Rev B: Human Factors, Habitability, and Environmental Health, and NASA-STD-3001: NASA Space Flight Human Systems Standard Volume 1 Rev A: Crew Health, to assist the contractor in focusing on areas specific to the 2024 Human Lander mission.

Government-Furnished Resources

16. Q: Looking at Industry Forum chart 23, Use of Government Resources, it seems like there is room for some Equivalent Personnel (EP) support under a Government Task Agreement (GTA). Can NASA distinguish this from the 50 EP available via the Collaboration Plan? Should non-facility NASA EP support beyond 50 EP be covered under GTA or Collaboration?

A: As provided in paragraph (b)(1)(i) of contract section H clause, *Use of Government Resources*, NASA will provide a cost for each GTA, and the total cost of all GTAs will be added to the Offeror's Total Evaluated Price for proposal evaluation purposes. The cost for each GTA may include EP directly related to the use of NASA On-Site Resources (e.g. NASA EP directly dedicated to support use of a thermal vacuum chamber covered under a GTA). These EP do not count towards the 50 EP Collaboration cap.

Only EP directly associated with NASA On-Site Resources should be included in a GTA. In its Collaboration Plan, an Offeror should not propose to use more than 50 EP per year for "collaboration." EP that are directly required for the use of on-site resources and appropriately

documented within one or more GTAs should not be included in the Offeror's Collaboration Plan.

17. Q: Will NASA provide feedback that items proposed under GTA should be captured under Collaboration?

A: Yes, the NASA Points of Contact identified in Attachment B of the BAA will be able to advise on this topic.

18. Q: Will NASA sign an agreement committing to providing Collaboration resources?

A: No. To inquire about relevant NASA expertise (see Attachment A4 for a summary of NASA capabilities), Attachment B contains a list of the Center points-of-contact for each NASA Center. The Offeror shall describe how, if at all, it envisions incorporating NASA EPs during any or all phases of its proposed approach to HLS in its proposed Collaboration Plan. As provided in contract section H clause, Use of Government Resources, "NASA will use reasonable efforts to ensure equitable resources are provided to all HLS contractors in support of their respective collaboration approaches, but makes no guarantees that identical resources will be provided. Specific resources will be narrowly tailored to a Contractor's unique development approach and associated needs and objectives." However, Offerors should note that the clause further provides that "NASA has the sole authority to determine whether it will provide any portion of the collaboration resources requested by the Contractor. During contract performance, NASA reserves the right to unilaterally change its approach to collaboration at any time, including the right to modify the specific EPs offered to the Contractor and the amount, type, and/or duration of their support, and including the right to cease collaboration at any time."

19. Q: Can NASA provide SLS as GFE? If not, what does NASA mean in the BAA when it states that Offerors could propose to use an SLS-derived commercial cargo vehicle solution; what is a "commercial" SLS?

A: No, NASA cannot provide SLS as GFE. As provided in contract section H clause, *Contractor Use of Government-furnished Equipment, Property, or Information*, while an Offeror may propose to utilize GFE not otherwise listed in the solicitation, the use of such GFE is "subject to its availability... and the Performing Organization's ability and willingness to provide [it]." NASA has assessed that the current manifest, funding levels, and schedules do not allow for the provision of a GFE SLS flight for HLS use by 2024.

Further, as stated in section 4.4.3.5.2 of the BAA, Offerors are required to propose how they will deliver HLS to the Moon using commercial launch vehicle(s). And while a commercial launch vehicle approach does not prevent or preclude offerors from negotiating with the SLS prime contractors directly to provide an SLS-derived commercial cargo vehicle solution for the Artemis launch mission(s), NASA providing SLS as GFE is not a commercial launch approach as required by the BAA.

Finally, as defined at 42 U.S.C. 18302(10), the term "Space Launch System" means the government-owned civil launch system developed, managed, and operated by NASA to serve as a key component to expand human presence beyond low-Earth orbit. Thus, by definition, SLS is

government-owned and not commercial. But as provided in BAA section 4.4.3.5.2, Offerors may negotiate directly with the SLS prime contractors to propose the use of an “SLS-derived commercial cargo vehicle solution” (emphasis added).

Operations

20. Q: Is NASA responsible for certification of the MCC-H infrastructure for crewed operations?

A: Yes.

21. Q: Can NASA clarify who retains liability if NASA takes mission operations control of the integrated lander?

A: During the “mission” portion of the contract (as that term is defined in contract section H clause, *Mission Success Determination*), the *Mission Success Determination* clause establishes how contractual liability will be handled by the Parties. And as provided in paragraph (f) of that clause, the parties agree that the terms and conditions of the clause will remain in effect whether the Contractor or the Government is in control, operational or otherwise, of the HLS in any capacity during performance of the mission.

22. Q: The BAA removed the requirement for NASA to operate lander once crewed, but the SOW suggests this is still required. Can you please clarify? Can Offerors opt that NASA is not in control of the Integrated Lander?

A: For the final Appendix H solicitation, the HLS mission operations requirements were consolidated into the SOW and are now only referenced from the BAA main body.

Per 4.4.3.5.1 of the BAA, The Offeror shall propose a comprehensive, collaborative, and feasible approach for conducting integrated mission operations between NASA and the Contractor in the Mission Operations and Mission Systems Plan (DRD 1665OP-003) in accordance with the requirements set forth in the SOW and in accordance with the Collaboration Plan.

Per Section 9.2.1 of the SOW, for Uncrewed HLS Operations, contractor shall be responsible for the onboard and ground vehicle operations for the uncrewed HLS operations. For Crewed HLS Lunar Operations, NASA is responsible for overall flight operations during all crewed phases of the flight. Real-time mission execution authority will be delegated to the Artemis flight director at NASA's Mission Control Center-Houston (MCC-H). The contractor can propose how they plan to integrate with MCC-H for crewed flight operation.

23. Q: Should offerors document requested NASA missions operations support as part of their Collaboration Plan, or as a Government Task Agreement (GTA)?

A: Per 4.4.3.5.1 of the BAA, the Offeror shall propose a comprehensive, collaborative, and feasible approach for conducting integrated mission operations between NASA and the Contractor in the Mission Operations and Mission Systems Plan (DRD 1665OP-003) in accordance with the requirements set forth in the SOW and in accordance with the Collaboration Plan.

Offerors may request general mission operations advisory expertise as NASA Equivalent Personnel (EP) support in the Collaboration Plan.

Section 9.2.1 of the SOW identifies mission operations functions for which NASA is responsible. As such, these functions do not need to be included as part of a GTA or as part of the 50 EP under the Offeror's Collaboration Plan. The Contractor is responsible for mission operations functions beyond these defined areas of NASA responsibility. Offerors have the option to request additional mission operations capabilities from NASA beyond the NASA mission operations core capabilities, and these capabilities would be documented as NASA on-site resources in a GTA.

Price

24. Q: Is NASA able to share funding available by year so the contractor teams can understand funding and where investments would be the most useful to NASA?

A: NASA is only able to share budget data that is already publicly available. See <https://www.nasa.gov/news/budget/index.html>.

25. Q: Final passage of the NASA FY2020 budget has yet to occur. If NASA only receives partial funding, will that impact the number of providers selected?

A: It may. The precise impact will depend on the appropriated level of funding. As provided in BAA section 5.3.1.3, "Although proposals will not be directly compared to one another, or any trade-off determinations made between or among proposals, if multiple proposals have been otherwise evaluated relatively similarly, the SSA may consider programmatic relevance/balance and/or the availability of funds to make award decisions" (emphasis added). Further, as provided in BAA section 6.1, "The overall number of awards will be dependent upon funding availability and evaluation results."

26. Q: Has NASA determined how many base awards will be made? During the presentation it was stated that up to 2 Option A awards would be made and up to 2 Option B awards would be made. Could you confirm?

A: Per section 1.3.1 of the BAA, NASA is currently planning, but has not made a determination, to award Base Contract Line Item Numbers (CLINs) to up to four contractors; exercise Option A CLINs for up to two of those contractors; and later exercise Option B CLINs for either one or two Option A contractors. However, as also provided in section 1.3.1, NASA reserves the right to change its HLS acquisition strategy at any time.

Management

27. Q: Please clarify whether issued purchase orders (POs) containing flowdown clauses requiring insight/inspection would be sufficient to comply with the Government Insight clause where such PO automatically binds the vendor to all clauses upon commencement of work.

A: While flowing down clauses requiring insight/inspection is necessary, it is not sufficient for full compliance with the Government Insight clause of the Model Contract (specifically (i)). For example, if there are problems with NASA gaining required insight to a subcontractor, the prime may need to intervene to help remedy the situation.

28. Q: Please provide clarification on the NASA HLS/Artemis Program board structure and approval requirements (for changes to NASA controlled items).

A: Additional program documentation including details on this topic will be available at ATP.

29. Q: Given the aggressive schedule needed to reach the moon by 2024 and the history of public private partnership entrants sometimes closing down soon after winning a contract award, will NASA seek to verify the financial soundness of bidders when making a source selection?

A: Yes. This is the primary purpose of the Responsibility Determination Information requested with proposals. Please refer to BAA main body section 4.4.6.26 for details.