

## NNM12ZPS001N - SLS ABEDRR Questions and Answers 36 through 65

Note: Some questions have been edited for clarity. Additionally, not all questions have been addressed at this time.

**Question 36:** Is a wind damper system planned for the Space Launch System (SLS) stack?

**Answer 36:** A wind-induced oscillation (WIO) damping device between the tower and the vehicle is not currently baselined; however, it is still in the design trade space. It should be noted that the location for a stay and crew ingress/egress structure between the tower and vehicle are being traded in an attempt to support the SLS configurations.

**Question 37:** The Draft NASA Research Announcement (NRA) states that “sufficient technical detail” be provided. Not knowing yet what is in Appendix B sheets 1.1 - 1.6, can NASA provide the level of fidelity it is expecting our Advanced Booster (AB) concept to be defined to?

**Answer 37:** Draft NRA Appendix B is available in the SLS Advanced Booster Engineering Demonstration and/or Risk Reduction (ABEDRR) Technical Library and establishes the expected fidelity to be provided by the Offeror.

**Question 38:** Reference Draft NRA Section 4.2.6.1.2.2 - 4.2.6.1.2.4 (page 9) - Appendix B Sheets 1.1-1.6 and Sheets 2-4 in Volume 1.

- Are the Appendix B Sheets 1.1 through 1.6 (as applicable) and either Sheet 2, 3, or 4 intended to be included in proposal Volume 1 - Relevance to NASA Objectives that is limited to 25 pages?
- The referenced Draft NRA sections indicate that the Offeror shall include completed "Appendix B, Sheets 1.1 through 1.6 (as applicable)" and either Sheet 2, 3, or 4. This appears to fall within the 25-page limited "Relevance to NASA Objectives" proposal requirements. As provided in Appendix B, the listed Sheets would appear to add up to 6-7 pages.
- We recommend that the specified Appendix B Sheets be submitted as Attachments and excluded from the Volume 1 page limits.

**Answer 38:** The Final NRA, Volume 1 – Relevance to NASA Objectives, page limit will be increased to 35 pages to accommodate Appendix B.

**Question 39:** The Draft NRA says it is not required, but will private investment be considered?

**Answer 39:** Yes. Private investment is another form of cost sharing. NASA will consider cost sharing in evaluating the intrinsic merit of the offer as stated in Draft NRA paragraph 5.1.3.2.

**Question 40:** Does NASA see any synergy with commercial markets or Air Force needs for the Advanced Booster or its engine(s)?

**Answer 40:** The United States Government is constantly evaluating and integrating current and expected needs for development and/or acquisition synergies. No specific interagency partnering is expected for this NRA. However, NASA welcomes any synergy brought forth by the defense community or commercial marketplace.

**Question 41:** Part A. Can NASA provide its thoughts as to where affordability risks reside? Part B. Is NASA’s expectation that the Affordability Plan needs to address Advanced Booster non-recurring and recurring life cycle cost numbers? Part C. If so, what is the planning, programming, budgeting, and

execution (PPB&E) for the Advanced Booster?

**Answer 41:** Part A. This NRA is looking for the Offeror to identify affordability based on their Advanced Booster concept. Part B. Yes. Part C. SLS PPB&E information will not be included in the SLS Affordability Plan or the Final NRA.

**Question 42:** Reference Draft NRA Section 4.2.6.3.5, Page 15. The title of this section is "Additional Price Requirements if Selected for Award," which suggests that the data referenced in the section are not to be submitted with the initial proposal. However the description of the requirements (and other parts of the document) suggest that these data may be required as part of the initial proposal submittal. Given an unrestricted Price Volume, would NASA be agreeable to receiving Basis of Estimates (BOEs) and additional supporting Price data with the initial proposal?

**Answer 42:** No. NASA only requires the Appendix E and supporting narrative summary for initial proposal. NASA will not evaluate BOEs submitted with the initial proposal.

**Question 43:** Reference Draft NRA Section 4.2.6.3.2.5, Page 14, Paragraph 1 (in Price Volume only). This schedule data paragraph is in the Price Volume section, but it appears to also apply under Intrinsic Merit. Does NASA plan to use the detailed schedule data provided pursuant to Draft NRA Section 4.2.6.3.2.5 as part of its Intrinsic Merit evaluation, or will this data be used solely for evaluating the proposed price reasonableness?

**Answer 43:** The Final NRA will be clarified to address the evaluation of schedule.

**Question 44:** Reference Draft NRA discussion topic: How to Show Major Subcontracts in Pricing, How to Submit.

- Appendix E, Element of Cost Detail Pricing Requirements and Section 4.2.6.3.2.4
- Appendix E shows "Subcontracts" under "Non-Labor." For teams which have major subcontractors who may have significant percentages of the work share of a given task, will this approach give NASA the insight into the pricing that it needs, or would another method be more beneficial to NASA's evaluation?
  - a. The summary cost table shown in Appendix E shows a line item for "Major Subcontractor" direct labor hours which sums to a line item for "Total Hours." There are no line items for minor and / or small business subcontractors direct labor hours. Thus, the "Total Hours" fails to include minor & small business direct labor hours.
  - b. There are no provisions for capturing major / minor / small business direct labor subcontract costs.
  - c. There are no provisions in the summary cost tables showing small business subcontract cost and / or hours, by small business type / category.

Question:

- a. How, or where, does the Offeror show minor and small business direct labor hours?
- b. How, or where, does the Offeror show major, minor, and small business direct labor costs?
- c. How, or where, does the Offeror show small business participation by type / category in the Element of Cost Detail table?

**Answer 44:** Parts A and B. Appendix E will be modified to clarify the cost data required for each major or minor subcontractor. Part C. Small business participation by type / category will not be captured in Appendix E and shall be shown in the Offeror's Small Business Subcontracting Plan submittal.

**Question 45:** Does NASA have a preferred format for the Offeror's provided documents J-1 and J-4

through J-8?

**Answer 45:** NASA has no preferred format; however, the Offeror shall follow the instructions as provided in Draft NRA paragraph 4.2.6.7.2.

**Question 46:** Would NASA consider slightly revising Draft NRA Section 4.2.6.2.2.2 to allow the Offeror to note previous work of a similar nature not performed as a prime contractor for a Federal Agency?

We would offer the following revision to paragraph 4.2.6.2.2.2 for NASA's consideration:

Relationship to Previous or Ongoing Work. The Offeror *team* shall submit the relation of the proposed engineering demonstration and/or risk reduction effort to the present state of knowledge; ~~and relation~~ to previous or ongoing work performed for or funded by a Federal agency; *and to other previous or ongoing work of a similar nature to the proposed effort. The Offeror team shall briefly describe previous accomplishments for related efforts.* The Offeror *team* shall state any dependency on previous or ongoing efforts in relationship to their proposed efforts for this NRA.

**Answer 46:** No. The Offeror may include additional information in other areas as deemed appropriate.

**Question 47:** Part A: Would NASA be willing to protect what would normally be "unlimited data" for a period of time for the purpose of protecting the competitive position of any Offeror pursuing the Advanced Booster Design, Development, Test, and Evaluation (DDT&E) procurement? Suggested time period would be until Advanced Booster DDT&E award or five years, whichever occurs first. Part B: Would a request for such a clause be considered a weakness?

**Answer 47:** Parts A and B: NASA cannot evaluate an Offeror's approach at this stage in the process prior to initial proposal submission. However, NASA will allow the Offeror to judiciously mark portions of their proposal that would be incorporated into any resultant contract that would compromise their competitive position in a future competition for the Advanced Booster DDT&E effort.

**Question 48:** Reference Draft NRA Section 4.2.6.2.1.2, Page 10.

- Appendix D Subcontractor Information in Volume 1.
- Are the Appendix D Subcontractor Information sheets intended to be included in proposal Volume 1 - Relevance to NASA Objectives, which is limited to 25 pages?
- The Draft NRA states "The Offeror shall submit information on all subcontracts over 5% of the total amount proposed per Appendix D, Subcontractor Information."
- We recommend that the specified Appendix D form be submitted as an Attachment and excluded from the Volume 1 page limits.

**Answer 48:** The Final NRA page limit will not be increased for Appendix D inputs.

**Question 49:** Reference Draft NRA Section 4.2.6.7.2, Page 16.

- Proposal Volume Page Limits - Table of Contents.
- Is supplemental information such as a List of Figures and a List of Acronyms intended to be included as part of the Table of Contents (unlimited page count) for each volume?

**Answer 49:** Supplemental information is not allowed in the Table of Contents; however, a List of Figures is allowed.

**Question 50:** Will NASA fund a trade study under this NRA?

**Answer 50:** No. There are no provisions for trade study funding under this NRA.

**Question 51:** For this NRA, how are Appendix A and Appendix B to be used?

**Answer 51:** Appendix A is to be used in conjunction with Appendix B (and other data files provided in the SLS ABEDRR Technical Library) to assist the Offeror in development of their Advanced Booster concept.

**Question 52:** Does NASA plan to award separate contracts for a solid, liquid, and hybrid Advanced Booster concept?

**Answer 52:** NASA reserves the right to select any standalone engineering demonstration and/or risk reduction (EDRR) or combination of EDRRs to maximize the programmatic benefits to NASA.

**Question 53:** The Draft NRA requests an extensive amount of information on the Advanced Booster concept. Does NASA plan to fund the development of an Advanced Booster concept?

**Answer 53:** No. NASA will not fund the development of an Advanced Booster concept, but needs the information requested in the Draft NRA to evaluate the Offeror's proposed EDRR.

**Question 54:** Can NASA confirm that a Small Business Subcontracting Plan will be required for each individual EDRR effort?

**Answer 54:** No, that is incorrect. Only one Small Business Subcontracting Plan shall be submitted in compliance with Model Contract, Clause H.15 and as part of Section J, Attachment J-5. The Small Business Subcontracting Goals shall address the total proposal value. This answer corrects information provided during the one-on-one sessions after the SLS ABEDRR Industry Day.

**Question 55:** May an Offeror propose EDRRs tackling issues other than purely technical risk? (Example: May an Offeror propose a design or process change to reduce the cost of manufacturing a system, sub-system, or part?)

**Answer 55:** Yes. NASA is seeking improvements to affordability, performance, and reliability. Any engineering demonstration and/or risk reduction effort that shows a direct relationship with the Offeror's Advanced Booster concept and increases affordability, performance, or reliability is a viable proposed effort.

**Question 56:** Reference Draft NRA Paragraph 1.2. This paragraph states "For purposes of this NRA, participation by non-U.S. organizations and Foreign Governments is limited to the direct purchase of supplies and/or services." If a significant value engineering demonstration and/or risk reduction can be conducted outside the continental United States, would that be viewed as an acceptable service?

**Answer 56:** Draft NRA Section 4.2.6.3.2.6 states the restrictions on foreign research. An Offeror is not restricted from efforts located outside of the United States if requirements of this NRA are met, including research funded through means other than contracts stemming from this NRA.

**Question 57:** Draft NRA paragraph 2.1 states "The Government's planned funding allocation is as follows: 30% in FY2013; 50% in FY2014; and 20% in FY2015." Is there any flexibility in this funding

profile?

**Answer 57:** The total funding allocation for all EDRRs awarded as a result of this NRA is as stated in Draft NRA paragraph 2.1. The Offeror may propose milestone payments in accordance with Model Contract, Clause B.3, Consideration and Payment.

**Question 58:** The Draft NRA Executive Summary states "...the period of performance for any contract awarded as a result of this NRA will not exceed 30 months..." If significant value is demonstrated but requires 33 to 39 months, is there any flexibility in this period of performance or would this be viewed as unacceptable?

**Answer 58:** Draft NRA paragraph 2.3 states "It is anticipated that the period of performance for any contract awarded as a result of this NRA will not exceed 30 months..." There may be flexibility in the period of performance if significant value to the Government can be shown. The Offeror's proposed period of performance will be evaluated in Intrinsic Merit. The conflict between the Executive Summary and paragraph 2.3 will be corrected in the Final NRA.

**Question 59:** Draft NRA paragraph 4.2.6.3.1.3 states "All cost and manpower summary information shall be complete (including but not limited to all in-house, major subcontracted efforts, and other costs, as appropriate) and be consistent with, and traceable to, lower levels of cost and labor hour detail contained within the proposal."

Draft NRA paragraph 4.2.6.3.5 states "Additional Price Requirements if Selected for Award. The following types of information are specifically required in this summary:

- A summary table listing all labor categories used in the proposal and their associated direct labor rates, along with escalation factors used for each year of the acquisition.
- A summary table listing all indirect rates used in the proposal for each year of the acquisition and the calendar month in which the rates change annually.
- A detailed Work Breakdown Structure (WBS) at a sufficient level to reflect a complete evaluation and understanding of the work awarded.
- Detailed Basis of Estimates (BOEs) to support cost and labor hour data for work awarded."

Several of these specific items requested are required by other sections during for the initial proposal submission. Please clarify when the WBS and BOEs are to be submitted.

**Answer 59:** The Offeror is expected to submit a WBS as part of the Model Contract in accordance with Draft NRA paragraph 4.2.6.4.3. NASA will not evaluate BOEs submitted with the initial proposal submission.

**Question 60:** Reference Draft NRA Appendix A, Section 4.3, Page 6. "Configuration modifications to the ground infrastructure to accommodate the Offeror's Advanced Boosters, along with cost of modifications, will be included." Does this include all of the Pad 39 changes to accommodate liquid rocket boosters?

**Answer 60:** No. The Offeror should include estimates for necessary modifications to only the mobile launcher specific to their reference vehicle (including their Advanced Booster concept). The wording in Appendix A, Section 4.3 will be updated for the Final NRA.

**Question 61:** Reference Attachment J-2, Page J-2-17. Paragraph 15.3 states "(2) executes the SLS Program within the baseline constraints." What are these constraints; the Advanced Booster planning,

programming, budgeting, and execution (PPB&E), the number of booster sets required for each year of the PPB&E, and pertinent retirement ground rules?

**Answer 61:** SLS PPB&E information will not be included in the SLS Affordability Plan or the Final NRA. The Offeror shall provide pertinent ground rules and assumptions used in their Affordability Plan.

**Question 62:** Part A. Please provide more specific guidance on what the affordability baseline is and/or how NASA will judge the “enhancement” relative to competing offerings. Part B. Even if a baseline cannot be provided, please provide the specific criteria that will be evaluated, i.e., Total Life Cycle Cost, Annual Budget, Recurring Costs, DDT&E costs, or some weighted set of all?

**Answer 62: Part A.** SLS planning, programming, budgeting, and execution information will not be included in the SLS Affordability Plan or the Final NRA. This NRA requires the Offeror to identify an Affordability Plan based on their Advanced Booster concept. The Offeror shall provide pertinent ground rules and assumptions used in their Affordability Plan. **Part B.** See Draft NRA paragraph 4.2.6.1.3.

**Question 63:** Appendix A, Figure 3 shows the Mobile Launcher (ML) hole dimension of 30’ 8” by 59’ to 70’. May the Offeror propose increases (or changes in general) to the plume hole dimensions to better suit their respective reference vehicle (and Advanced Booster) concept?

**Answer 63:** The ML plume hole dimensions provided in Appendix A, Figure 3 were given as guidance to minimize modification to the current ML design. As indicated, the existing ML design has 132 inches (11 ft) of available linear distance to work with in the  $Z_{SLS}$  axis. There is no extra space available in the  $Y_{SLS}$  axis to widen the plume hole without modifying major structural supports within the ML and incurring significant costs. The Offeror may propose modification to the ML plume hole dimensions to better suit their concept. Modifications to decrease the dimensions given in Appendix A will be regarded as minimal changes. Modifications to increase the dimensions of the plume hole will be regarded as significant modifications. The Offeror shall provide a rough estimate of the cost of the modification. Per NRA paragraph 4.2.6.1.2, an Advanced Booster concept that requires modification of SLS Program requirements as described in the Draft NRA will be considered if significant affordability gains are documented in the Affordability Plan.

**Question 64:** How are major subcontract values evaluated—by risk task or by prime Offeror initial proposal submission? There is a 5% threshold for determining whether or not a subcontractor is “major” in the solicitation... is that threshold set for each task proposed (1 to 5) ...or... for the total combined value?

**Answer 64:** The Final NRA will be clarified so that the definition of major subcontractors will apply to the engineering demonstrations and/or risk reductions efforts proposed.

**Question 65:** Since from 1 to 5 risk tasks can be proposed for each Advanced Booster concept, can NASA clarify how the Small Business goals will be evaluated—by task or by prime Offeror initial proposal submittal? There is a 10.5% goal (and subgoals) that apply for each task proposed (1 to 5) ...or... for the total combined value?

**Answer 65:** The Small Business Subcontracting Goals shall address the prime Offeror’s total proposal value in accordance with the Model Contract, Clause H.15 and FAR 52.219-9, Alternate II.