EVI-1 FAQs

1) Will each co-I need to include a biography, current and pending support, etc, and are there any page limits to this?

Answer: The requirements for the proposal regarding the investigation team are all spelled out in Section J of Appendix B of the SALMON-2 AO. In particular, requirement B-60 states "This section shall include resumes or curriculum vitae for the PI, PM, Project Scientist (PS), Project Systems Engineer (PSE), all Co-Is identified in the science section, and for any key project personnel who are named in the proposal. Specifically, each resume shall cite the individual's experience that is pertinent to the role and responsibilities that she/he will assume in the proposed investigation. Project management experience shall be included in the resumes of the PI, PM, PS (if named), and PSE. Resumes or curriculum vitae shall be no longer than three pages for the PI and one page for each additional participant. Resumes shall be organized alphabetically, by surname after that of the PI." There is no requirement to include current and pending support.

2) What parts of Phase D, Phase E, and Phase F are to be included in the investigation costs of the proposal (and the responsibility of the PI), and what costs are to be budgeted outside this cost for NASA planning purposes only?

Answer: All of the costs from Phase A-C are within the investigation costs for the PI. The costs for the science team and key management and engineering personnel during 2 years of Phase D are within the PI Investigation costs. The costs of the on orbit checkout phase within Phase D (after launch, but before science operation) are within the PI Investigation costs. The costs of Phase E (including science team support, cal/val, and data analysis) are within the PI Investigation costs. The costs for Phase F are within the PI Investigation costs. For EVI-1, Phase F entails deactivating the instrument, finalization of the archiving of all required data sets, and publishing final papers on the data sets. Costs outside the PI cost caps include all phase D costs related to integration not listed above and up to 4 years of carrying costs for the key investigation team during any potential gap between the completion of Phase C and the start of integration. This wording will be clarified in the final EVI-1 PEA.

3) What is the inflation rate is to be used in defining FY2014 dollars?

Answer: See Requirement B-51 in the Draft SALMON-2 AO: "Proposers shall use their own approved forward pricing rates. For organizations that are without approved forward pricing rates, proposers may use the NASA inflation/deflation indices in Table B4." The most recent NASA inflation/deflation indices are available at http://www.nasa.gov/offices/ipce/CA.html.

4) Requirement J-9 says: Proposals shall include detailed plans and budgets for Phases A-E for costs that are within the PI-Managed Mission Cost. Are there

requirements as to what should be included in the detailed plans and budgets? Will a format be provided on how this requirement should be presented?

Answer: Appendix B of the SALMON-2 AO provides detailed instructions on proposal format and content. Beyond what is in Appendix B of the SALMON-2 AO, No.

5) Will any requirements or templates for proposals be included beyond what is listed in the draft or final SALMON-2 AO and the draft or final EVI-1 PEA?

Answer: No

6) Will there be unlimited contributions allowed as was the case for EV-2? If "yes", will the PI have to provide proof of control of the proposed effort as was the case with EV-2?

Answer: Yes and yes. In a proposed arrangement with substantial contributions, the proposal shall demonstrate that the PI remains in charge of the investigation within the proposed partnership environment.

7) Based on the EV-2 single step proposal submittal experience, is consideration being given to providing more than 90 days from final SALMON-2 AO/EVI-1 PEA release to proposal submittal due date?

Answer: No

8) How should proposals account for the possibility that an appropriate platform is not determined before PDR?

Answer: They should not.

9) Can you quantify "minor changes" to the instrument that may be required for the platform acquired for the selected instrument?

Answer: Minor changes include changes to interfaces, small changes to foreoptics, etc. Redesigning or re-architecting the instrument concept is not considered minor.

10) Given the $90M (FY14) cost cap and the uncertainty associated with when a proposed instrument would actually be manifested on an appropriate platform (see requirement J-11), could the Phase E aspects - and related costs - be handled as a ROSES call, thus allowing ESD more flexibility regarding the use of the instrument?

Answer: No, these are PI led investigations where the science team is part of the proposal.

11) Based on the wording in the draft SALMON-2 AO, is it correct to assume that EVI-1 proposals will only require a science traceability matrix and will not require the submittal of a mission traceability matrix?

Answer: No. Any mission requirements that flow from the measurement or instrument requirements should be captured in the traceability. These represent the non-negotiable requirements on the host mission. If a second traceability matrix is needed, that is permitted.

12) Requirement J-11 states "Proposals shall include plans and planning budgets for the required costs to minimally support the project and science during a potential gap between instrument delivery (end of Phase C) and the start of integration with the spacecraft (start of Phase D). These budgets should be on a per year basis for up to four years. These costs are outside the PI-Managed Mission Cost." As this cost is outside of the PI-Managed Mission Cost, how will it factor into the TMC evaluation process and eventual SMD/ESD selection process?

Answer: Yes, this is outside the cost cap. This is for ESD internal planning/budgeting purposes only and not part of the evaluation process. However the TMC will provide findings on the realism and reasonableness of the proposed carrying costs.

13) Will there be any restrictions on the classification level of a classified appendix permitted in this PEA as allowed under the SALMON-2 AO?

Answer: No. This will be clarified in the final version of the SALMON-2 AO (that will be released at the same time as the final EVI-1 PEA).

14) Section 4.2 of the draft EV-I PEA calls for Class C payloads per NPR 8705.4, which states Class C payloads are "short, < 2 years". The classification stated for Class D payloads is "short < 2 years", and for Class B payloads is "medium, 2-5 years". This allows for the inference that an EV-I instrument should be proposed and designed for a mission lifetime not to exceed 2 years, but with a more conservative risk posture than that of a Class D instrument as described in NPR 8705.4 Appendix B, "Recommended SMA-Related Program Requirements for NASA Class A-D Payloads". Is this inference correct? If not, can the "Class C" intent please be clarified in regards to both operational lifetime and risk posture?

Answer: The inferences are correct. Class C instruments are designed for a mission lifetime not to exceed two years. If an instrument requires two or more years to meet the investigation requirements, the proposal should demonstrate how the instrument will meet that time requirement. If any requirements to the instrument that are above Class C are needed, they should be clearly described in the proposal.

15) Will a suggested year-by-year funding profile be provided that represents the constraints of the ESSP Program's budget for EVI-1? If not, how will the proposing teams know what is or isn't a reasonable yearly funding profile? This information is critical especially if a funding profile that is not consistent with Program constraints is a criteria for nonselection?

Answer: A typical funding profile is sort-of bell shaped, with peak funding during Phase C. We decline to be more specific because we want proposers to provide the cost phasing that is best for their proposed investigation. Section 4.4.1 states, "Proposers should propose a funding profile that is appropriate for their investigation."

16) Requirement J-12 states "Proposals shall include a development schedule that delivers an instrument for integration onto the selected platform no later than September 30, 2017." To show the activities supporting activities during a possible delay in spacecraft integration, should proposers include Phase D and Phase E on the proposed schedule or only Phases A-C (FY2013-FY2017)

Answer: Show the entire schedule. Assume a nominal 2 years (as described in Section 4.4.1) for Phase D, and the appropriate Phase E to meet the investigation success criteria.

17) Page J-12 states "Proposals may include information on any research the proposing team has done relative to potential payload accommodations for their proposed instrument. This is not a requirement for any proposal." Will this payload accommodation information be an appendix since it is not required, or will it be included in the page count of the proposal?

Answer: This information is part of the page count. Proposers are free to include any non-required information as they see fit to include. This all counts toward the page count limit.

18) Has NASA received an appropriation and operating plan containing adequate funding within the NASA Earth Science Division budget to develop and execute the Earth Venture Program as planned?

Answer: NASA makes plans each year based on the budgets submitted to Congress by the Executive branch. NASA only received appropriations from Congress one year at a time. Section 4.3.5 of the SALMON-2 AO discusses the availability of appropriated funds.

19) Page J-6 states "ESSPO will manage the EVI investigations under the requirements of NPR 7120.5D NID, NASA Space Flight Program and Project Management Requirements, as described in Section 4.1.2 of the SALMON-2 AO". Given the "yet to be identified space platform" and potential for up to 4 years of waiting after delivering the instrument, will ESSPO be tailoring NPR 7120.5D NID for EVI-1? If "yes", when will the tailoring be posted for inclusion in instrument proposals?

Answer: Neither ESSPO nor SMD have the authority from OCE to tailor projects that do not exist. Tailoring can only be requested and approved for a project after it is selected and initiated. See NPR 7120.5D NID.

20) Page J-7 states "NASA funding for selected proposals will begin as soon as appropriate funding vehicles can be put in place, usually within three to four months following selection". In the case of a NASA Center being the managing organization for a selected proposal, is it reasonable to assume that funding would be provided within a month of selection?

Answer: Any selected organization can expect funding to begin as described in the PEA and should not assume any faster timeline.

21) Page J-8 states "This opportunity solicits proposals for science investigations requiring the development and operation of space-based instruments, designated as Class C (medium priority, medium risk, less than two years primary mission timeline as defined in NPR 8705.4, Risk Classification for NASA Payloads) on a platform to be identified by NASA at a later date". Given the similarity between an ISS-based EV-2 proposal and a proposed EVI-1 instrument that is well-suited for use on the ISS, why is the EVI instrument designated as Class C, while the EV-2-based instrument carried a Class D designation?

Answer: SMD is willing to accept a greater risk for EV-2 missions than for EVI investigations.

22) Will proposal development support be provided by the NASA Space Station Payloads Office as it was under the EV-2 AO? (paragraph 5.9.4 in the EV-2 AO). Will a letter of feasibility from the NASA Space Station Payloads Office be required?

Answer: No to both questions. EV-I proposers are not required or expected to arrange access to space (this is different from EV-2 proposers). However, any questions concerning integration onto the ISS can be sent to Dr. George Nelson, Space Station Payload Office, NASA Johnson Space Center, 281-224-8514, george.nelson-1@nasa.gov

23) Page J-17 states "The review panel evaluating the third evaluation criterion, technical, management, and cost (TMC) feasibility of the proposed investigation, including cost risk, will also assess the following factor: • The extent to which the proposed instrument is compatible with potential satellite platform interfaces and operations. This assessment will not contribute to the TMC feasibility risk rating, but will be provided as comments to NASA". This statement appears to infer that the TMC could give a proposed instrument a low risk rating, while, in fact, the instrument in question is incompatible with any potential satellite platform interface and operations? Is this correct?

Answer: This is correct.

24) Page J-17 states “After the review, NASA will perform an accommodation study of selectable proposals to assess the extent to which the proposed instrument is compatible with potential satellite platform interfaces and operations”. What are the criteria that will be applied during this accommodation study? Will the criteria be weighted and if so, to what extent? Is there an existing database of potential satellite platform interfaces and operations that can be released now?

Answer: No clear criteria have been set. The CII activity is the best available data at this time. This data will be frozen for the 3 months that the solicitation is open when the SALMON-2 AO and EV-I PEA are released so that all the same information is available for all proposers. Criteria may not be weighted evenly, as this may not lead to the best selection of an investigation.

25) Would the Program consider allowing a Class D payload under any circumstances (for example, the deployment of a free-flying satellite from the primary platform)?

Answer: No, the solicitation is for Class C or higher.

26) Section 6.1 states that both the TMC panel and NASA will look at how the proposed instrument is compatible with potential satellite platform interfaces and operations. Will this evaluation be done using only the Common Instrument Interface Guidelines document or will other information be used? If other information is used, will this information be available in the EV-I library?

Answer: The TMC panel will not be limited to only the CII guidelines document. All publically available information may be used in the evaluation. It is our desire that as much publically available information as possible resides in the CII documents, but we know that it may not be possible to make the CII document complete.

27) The "Earth Venture Background and EVI" presentation at the Draft PEA workshop makes several references to the EV-i instrument being "facility-class". As "facility-class" is not mentioned anywhere in the draft PEA or SALMON-2 AO, could you please provide ESD's definition of a "facility-class" instrument.

Answer: The use of the phrase “facility-class” in some of the presentations means that the data are for general use by the scientific, operational, and any other interested communities.

28) Will the final SALMON-2 AO be released prior to the final EVI-1 PEA?

Answer: The final SALMON-2 AO and the EVI-1 PEA will be released at the same time.

29) The "Technical, Management, and Cost Evaluation Overview" presentation at the Draft PEA workshop references mission design and flight systems (Factor C-2 and C-3, slide 5). Will factors C-2 and C-3 be discarded for the TMC's evaluation of the EVI-1 proposals?

Answer: No, the factors will not be discarded. Note that the last sentence in factor C-2 and C-3 in the Draft SALMON-2 AO says "This factor will be applied only to the extent that it is appropriate for the proposals solicited by the applicable PEA." Both factors have aspects that are applicable to instrument proposals. This will be discussed in more detail at the preproposal conference after the final EV-I PEA is released.

30) The "Technical, Management, and Cost Evaluation Overview" presentation at the Draft PEA workshop note that NASA will request clarification on specific, potential major weaknesses in the feasibility of mission implementation that have been identified in the proposal (slide 6). Can this be interpreted as "potential major weaknesses in the proposed instrument and associated operational approach" (vs. mission implementation)? Can you provide the process you will be following in making these requests (estimate of how many days after proposal submittal that the requests will be made, amount of time allowed to respond, etc.)

Answer: This will be interpreted as "investigation implementation" which will apply to the EVI-1 PEA. The clarification process and the schedule for initiating clarification requests will be described in detail at the workshop after the final EVI PEA is released. NASA will be using the same process that it used for the New Frontiers, Discovery, and Explorer AOs, and that it is in the process of using for the EV-2 AO. The time to respond will be at least 24 hours.

31) Regarding data submission requirements, is EVI-1 considered to be "tightly-coupled"? Which table will apply to EVI?

Answer: Earth Venture is an uncoupled program.

32) May we include a list of figures and tables in the table of contents?

Answer: Yes, you may. There are no page limits on the Table of Contents.

33) The draft SALMON-2 AO states "*The following expands requirements in the AO, in particular Requirement 60.*" The requirement reference seems to be in error. Should this refer to: Requirement 44, and Requirement 45 revised w/"demonstrate" added or, no reference to any SALMON-2 document requirements?

Answer: The statement expands on all requirements within the SALMON-2 AO and simply points out one of them.

34) Under the EV2 AO, NNH11ZDAQ12O, EVM was to commence after completion of CDR. Does a similar direction apply to this solicitation?

Answer: See section 4.5.2 of the SALMON-2 AO. The same wording regarding EVM as used in the EV-2 AO is included there.

35) Has a decision been made on the level of IV&V required?

Answer: No such decision is made until after a project has been initiated. See Section 4.5.1 of the SALMON-2 AO for reference.

36) If it is possible to propose for the ISS, and delivery of the instrument is required by September 30 2017, and we have to plan for two years of integration window, then we only have a single year left in ISS mission life according to NASA's planned use of ISS. Does this mean we can only plan for a single year mission life? Or will NASA allow science mission to extend beyond 2020? Or alternatively, will NASA decrease the window for integration and launch more quickly if it is an ISS mission?

Answer: The proposal should propose a completion of the primary investigation by 2020. The proposal can propose a faster instrument development and a faster integration if either is possible.

37) Is the 25% minimum development unencumbered cost reserve required for items procured through fixed-price contracting?

Answer: Yes.

38) We note that on page J-3 the callout is for instrument delivery for platform integration within 5 years of award, rather than from project funding start date. The notional gap between selection and funding is called out as 3-4 months on page J-7 (last bullet, section 3). Furthermore, section 4.4.2 states "deliver an instrument that can be integrated…within 5 years of initiation of project" which appears to be inconsistent with the callout of instrument delivery within 5 years from award date. We suggest adjusting the text in section 1.2 to call out instrument delivery date relative to project start date rather than award, since the gap between award and project start date is poorly defined. Would NASA please clarify whether instrument delivery is relative to award date or to project funding start date?

Answer: We give a date of September 30, 2017 to avoid this confusion (see Section 4.4.2 in the draft EV-I PEA). The final PEA will be clarified to ensure a consistency to this date throughout.

39) Section 6 of the draft EVI-1 PEA: "the evaluation of scientific merit also includes the following factor: Factor A-2, programmatic value of the proposed investigation…" does the text for Factor A-2 in the draft PEA replace the text in the draft SALMON-2 AO Factor A-2 in entirety? Similarly, does the text for Factors B-2 and B-3 in the draft EVI-1 PEA replace the text for Factors B-2 and B-3 in the draft SALMON-2 AO?

Answer: No. These are additional factors that supplement the factors in the SALMON-2 AO.

40) Section 4.6, last bullet: "This PEA is sponsored by SMD and it does not permit contributions from SMD programs other than the funding offered through this PEA." Would Government Furnished Equipment (GFE) constitute an unallowable contribution to the solicitation in this PEA, if the GFE has already been paid for and the hardware in question is no longer required by the flight program which purchased the hardware?

Answer: The intent of this requirement has to do with funding and not GFE. If funding is required to adopt or modify the GFE, that funding must be included in the PI-managed mission cost. The reuse of existing equipment is permitted. We will modify the SALMON-2 AO to clarify this.

41) Given that EVI calls will come every year, how will intellectual property be protected? What will prevent a flow of proprietary information from this year's reviewers to next year's proposers?

Answer: All reviewers sign non-disclosure agreements and are bound to protect the proprietary content of the proposal. NASA has many annual proposal calls, and this is not a problem that we have experienced.

42) Can proposers include letters of commitment from potential spacecraft hosted payload providers?

Answer: A Letter of Commitment would be inappropriate because NASA will select the host mission, not the PI. However a Letter of Interest would be acceptable.

43) If a proposed instrument is compatible with more than one slot on the ISS, but not with other platforms, is that sufficient flexibility for EV-I?

Answer: No flexibility is required. However, flexibility is an indication of an instrument's ability to be manifested (see Section 4.5.1 of the draft EV-I PEA).

44) Requirement J-15 states that "Proposals shall describe the instrument's contributions to orbital debris and explain how the instrument will be passivated at end-of-mission." Can the PEA clarify how to do this without having a specific platform defined? NPR 8715.6A states "The NASA Program/Project Manager shall implement orbital debris requirements for those portions of a spaceflight program/project over which NASA has control."(¶2.1.1) The instrument project will not have control over the orbit lifetime and/or deorbit strategy of the spacecraft bus. While instruments can define how they will be passivated, without knowing the architecture of the host mission in general, and host bus in particular, it will not be possible to address debris issues in any detail. We suggest replacing Section 4.5.2 of the PEA with the following: 4.5.2

End-of-Mission Spacecraft Disposal Section 5.3.9 of the SALMON-2 AO discusses the requirements related to end-of-mission spacecraft disposal. For these proposals, information shall be included regarding how the instrument will be passivated at end-of-mission. Projects will work specific end-of-mission technical issues once a host platform has been identified for the instrument, and associated costs will be considered part of the integration activity which is outside the PI-managed cost cap. This will allow NASA to remain in compliance with NPR 8715.6A, NASA Procedural Requirements for Limiting Orbital Debris. Proposals need not include Appendix J.X, "Discussion of End-of-Mission Spacecraft Disposal Requirements," per the SALMON-2 AO. Requirement J-15. Proposals shall describe how the instrument will be passivated at end-of-mission. This supersedes Requirement 39 in the SALMON-2 AO.

Answer: The proposal shall describe the instrument's End of Mission passivation plans to include depletion of instrument onboard stored energy sources and disconnection of all energy generation sources when they are no longer required for mission operations or post-mission disposal. In addition, in order to address a potential uncontrolled reentry for post-mission disposal, the proposal shall discuss instrument components that will survive reentry should this become the post-mission disposal method of choice. Per NPR8715.6 and NASA-STD-8719.14, an abbreviated and updated ODAR is required at Instrument PDR, Instrument CDR, and Instrument Pre-Delivery Review. The development and update of these assessments is within the PI-managed cost cap.