2014 Astrophysics SMEX
Announcement of Opportunity Q&A

Change Log		
Rev.	**Date**	**Description of Changes**
03	10/10/2014	Converted Q&As from HTML to PDF. All 32 Q&As have been copied over in the same order.
04	10/10/2014	Modified the answer to question #7. Made slight modifications to 5, 7, 8, 13, 15, 19, 21, 22, 23, and 26.
05	10/27/2014	Added a note to #29, New Q&As 33 through 46
06	10/29/2014	Added Q&As 47 and 48
07	11/05/2014	Added Q&As 49 through 57
08	11/07/2014	Made minor modifications to the answer for Q&A #57
09	11/13/2014	Added Q&As 58 through 62
10	11/21/2014	Added Q&As 63 through 65
11	12/04/2014	Added Q&A 66

Q–1 For the EV-2 AO for the last Earth Ventures program, there was an option for PI-managed access to space. Can this opportunity be made available for the 2014 SMEX AO? What will the PI-Managed Mission Cost be?

Yes, an essentially identical option will be available for this SMEX AO. Although NASA-provided launch services are offered and may be proposed, proposers may also propose alternative access to space, including contributed launch services. The PI-Managed Mission Cost for proposed SMEX missions will be $175M, including the launch services. NASA-provided launch services may be proposed at a charge of $50M in FY 2015 dollars against the PI-Managed Mission Cost. For alternative access to space, which must be arranged by the proposer and funded within the $175M PI-Managed Mission Cost, a charge to the PI-Managed Mission Cost of $2M will be levied for the expected NASA launch vehicle monitoring functions and advisory services.

Q–2 Section 5.9.3 of the draft 2014 SMEX AO indicates that investigations to be flown aboard the ISS may be proposed. The draft AO seems to state that ISS payloads are allowed with the full $175 million cost cap AND for which launch costs are not counted against the PI cost cap. It would appear that ISS payloads have an extra $50 million to spend on instruments relative to free-flyers where launch costs must be included within the $175 million cost cap. Was that your intention?

No, NASA will provide accommodations on the ISS, as well as transportation to the ISS, at a $50M charge to the PI-Managed Mission Cost.

Q–3 If alternate access to space is proposed, must a minimum 25% reserve be added even if the ELV quote is for a fixed-price or not-to-exceed cost?

Yes. The proposer has taken responsibility for launch services and therefore is required to carry 25% cost reserve on those services.

Q–4 If a NASA-provided launch service is proposed, should the $50M cost be included in the unencumbered cost reserve percentage calculation?

No. The denominator in the cost reserve percentage calculation will not include the $50M cost of a NASA-provided launch service.

Q–5 In the Foreword (page i), last sentence of the 2nd paragraph, the draft SMEX AO states, "The selected mission will launch no later than end of 2020." Other places in the AO (such as pg 37, Requirement 81) indicate that the launch readiness date is no later than end of 2020. Is the mission required to LAUNCH by 12/31/2020?

The language been modified in the final AO. Proposals shall propose a launch readiness date no later than December 31, 2020.

Q–6 How will the costs for Launch Services Monitoring (for PI provided launch services) be phased? In other words, should the "$2M charge levied for the expected NASA launch vehicle monitoring functions and advisory services" be costed in Phase E or will it be spread across a number of phases?

The $2M launch vehicle and monitoring function and advisory services fee should be spread across phases B through D.

Q–7 Page B-2, Requirement B-4 of the draft AO states that, "Two extra pages each are allotted for each separate science instrument in the Science Section (Sections D and E), two extra pages each are allotted for each separate, non-identical flight element." Given the language of the 2 extra pages/instrument; If a mission has one instrument does that mission get two extra pages for that one instrument (two extra pages for each separate science instrument."? So, in other words, for a mission with a single instrument, is it correct to interpret Requirement B-4, that Section D and Section E are allotted 27 pages (25 +2 pages/instrument)?

The language of the final AO was modified to say that, "Two extra pages each are allotted for each additional separate science instrument in the Science Section … " For example, a mission with 1 instrument is allocated 25 pages, a mission with 2 instruments is allocated 27 pages, etc.

Q–8 Requirement B-2 on page B-1 of the draft AO is inconsistent with the new requirement that all submissions will be electronic.

References to hard copies are removed in the final AO.

Q–9 Requirement B-2 states, "Foldout pages may also be employed at the proposer's discretion." Are Foldout pages still preferred/permitted in the electronic-only version submitted to HQ or would HQ prefer allocating more pages, i.e., 2 pages in 8.5x11 inches format instead of (for every) foldout in 11x17 inches format?

Foldout pages are permitted. Requirement B-4 says: "each foldout page will count as two pages against the page limits as appropriate for its area." This requirement applies to the electronic format.

Q–10 Must CM&O be applied to any NASA contributed labor (FTE and on-site/near-site WYE)?

Yes

Q–11 Can support for ground-based follow-up be included as an SEO (Section 5.1.5)?

Yes

Q–12 Requirement 69 in section 5.7.2 states that the required elements for a letter of commitment for a contribution are given in Section 5.8.1. However, Section 5.8.1.1 states that the requirements for letters of commitment are given in section 5.7.2 and Requirement 69. This seems circular - is it also contradictory? Can we get clarification?

The paragraph in Section 5.8.1.1. referring back to Section 5.7.2 is deleted from the final AO.

Q–13 20MB limitation specified in Requirement B-5 of the draft AO is a problem. Our last EX proposal was 50 MB in size - reducing to 20 MB will seriously degrade image resolution on some figures. Request change to 50 MB.

Limit is increased to 40 MB in the final AO.

Q–14 Will NASA hold the on-site reviews after submission of the CSR?

There will be site visits during the evaluations of the CSRs.

Q–15 There is a contradiction in the draft AO between Requirement B-3 and Page 116 in the Compliance Checklist regarding font size.

Line 5 of the table in Appendix F changed to "no smaller than 12 pt font" in the final AO.

Q–16 NTIA Section 8.2.41 limits the bandwdith in the 2200- 2290 MHz band to 5 (five) MHz, not 6 MHz, with caveats about requiring justification if a bandwidth of more than 5 Hz is required. Does the NASA document supercede the NTIA document and state that proposers will be allocated 6 MHz?

The regulations make specific allowance and exceptions for spread spectrum emissions associated with the Space Network (Tracking and Data Relay Satellite) and some other operations and specify a bandwidth limitation slightly greater than 6 MHz since that is necessary for such links. The 5 MHz limitation applies to Space-Earth communications. Spread spectrum missions (e.g., space-to-Tracking and Data Relay Satellite, communications and lunar downlink, and lunar data relay satellite communications) that enable multiple users on the same channel and require a necessary bandwidth of approximately 6.16 MHz are exempt from this policy.

Q–17 Is use of CFDP a requirement when using DSN, or a recommendation? If only recommendation, will the proposer be evaluated negatively for not using CFDP? (Reference: Section 1.5.4 of NASA's Mission Operations and Communications Services)

NASA's Mission Operations and Communications Services Document, available in the document library, specifies that all DSN users should employ CFDP to transfer data to and from a spacecraft to improve station utilization efficiency as well as reduce mission risk and costs. Proper justification needs to be shown if the recommendation is not followed.

Q–18 Under Project Management Policy, Section 4.5.1 Independent Verification and Validation of Software states, *"If the software assurance classification assessment determines IV&V is mandatory, proposal teams are encouraged to contact the Office of the Director …"* This encouragement is unactionable by the Step 1 proposal teams. [Section 4.5.1 Independent Verification and Validation of Software, page 12] because they can not respond to any direction on the Step 1 proposal before it is actually submitted and reviewed.

If the project is designated as requiring software IV&V, then the project needs to contact the NASA IV&V office. The NASA IV&V office will respond to such inquiries for Step 1 proposals before proposal submission. They can be reached using the contact information provided in the AO.

Q–19 Requirement 26 of the draft AO states, "In *order to better manage the Agency's transition to Ka- band service, proposed investigations shall baseline the use of Ka-band for science data return."* Can you please confirm that this only applies to "proposed investigations" that are in deep space (i.e., non-Earth orbiting)?

Yes, this guidance applies to deep space mission only. This paragraph has been modified in the final AO to clarify.

Q–20 Section 5.6.6 states that for full cost accounting of civil servants, all FTEs and WYE and CM&O burden "must *be identified in a separate table within the budget justification section of the proposal."* Is there a specific required format or Table # or template for this table?

No, there is not a required format. The proposers may use their own format.

Q–21 Requirement B-66 of the draft AO is vague. Only examples are provided for *"certain items"* for which NASA requires additional details. Please specify the list of "certain items."

Requirement B-66 has been expanded in the final AO to be more specific about what is meant by "certain items."

Q–22 Requirement B-68 of the draft AO states, "the *evaluation team will use a scale with at least three levels (full, partial, or none) as illustrated in the table below."* Please specify the levels that will actually be used by the evaluation team.

The phrase "at least" has been removed from Requirement B-68 in the final AO.

Q–23 Table B1, the Science Traceability Matrix example, has 2 columns reversed with respect to the example version provided in the draft Discovery AO. Under Scientific Measurement Requirements, we recommend the format from the Discovery AO, where the Physical Parameters are listed first, followed by the Observables to the right, which more accurately reflects the logical flow down from Objectives to the what one measures to how one observes it.

The recommended changes are implemented in Table B1 of the final AO, and posted electronically in the program library.

Q–24 Institutions that have forward pricing rates estimate cost in real-year dollars. The FY15 dollar values requested are relevant only for the total project cost, for comparison to the cost cap. We recommend exempting institutions that use forward pricing rates from submitting Table B3b, and instead that Table B3a be restored to the format used in prior campaigns, such as Explorer 2011 AO Table B3 (Tables B3a and B3b, pages B-28/29).

In using Table B3 from the Explorer 2011 AO, there was the potential for uncertainty in the application of forward pricing rates, especially when multiple organizations, each with its own forward pricing rate, collaborated. By splitting Table B3 into Real Year and FY2015 denominated tables, the organizations themselves perform the needed escalation/de-escalation.

Q–25 Recommend adding a Phase F column to Tables B3a and B3b

A Phase F column has been added to tables B3a and B3b in the final AO. The electronic version of these tables in the SMEX program library has been updated accordingly.

Q–26 The second sentence of Requirement 30 is duplicative of Requirement 29 in the draft AO.

Second and third sentences of the requirement 30 have been deleted from the draft AO.

Q–27 Will the TMC be made aware of the upcoming changes (in November) to the ITAR, and be prepared to evaluate proposals that are written in compliance with the new regulations?

Proposers are to follow ITAR regulations that are in place at the time when the final SMEX AO is released in September 2014. All reference documents will be updated at the start of the phase A for downselected proposals.

Q–28 Are the unencumbered cost reserves (25%) for Phases A/B/C/D calculated against each phase individually or in total?

Adequate unencumbered cost reserves (25%) must be shown against the total cost to complete Phases A through D.

Q–29 Will NASA be posting a tailored Small Explorer MAR with the release of the final AO?

No. It is the responsibility of the proposing team to identify a set of mission assurance requirements that is appropriate for the proposed mission; hence it is the proposer's responsibility to tailor the MAR if needed. Page 4 of the Standard MAR documents 320-MAR-1001E says, "… It is expected that the Chief Safety and Mission Assurance Officer (CSO) will tailor elements of Appendices 1 and 3 for a Class A, C, or D mission."

Note: Additional explanation is provided in Q&A # 39.

Q–30 Will the 2014 SMEX be a Class D Payload as defined by NPR 8705.4, or will or it be a tailored Class D, as defined by the 2007 SMEX AO?

The 2014 SMEX will be a Class D Payload as defined by NPR 8705.4.

Q–31 Section 5.2.2 of the AO states that NPR 7120.5E and 7123.1B should be used as guidelines/reference for the projects' project management (PM) and systems engineering (SE) approaches. The proposer are allowed to propose their own processes/practices/methods for implementing PM and SE on the projects as long as they are consistent with the referenced NASA documents. However, Requirement 22 (which is new for the 2014 AO) asks for identification and discussion of any deviations from NPR 7120.5 and NPR 7123B as part of the proposal. Since waivers to documents are typically defined after discussions with NASA to allow understanding of specific details regarding "non- compliance", how does the proposer know what inconsistencies will require a waiver?

Proposers are not required to "enter into discussions with NASA" in order to formulate their proposed PM and SE plans. NPR 7120.5E and 7123.1B specify that projects are required to identify and document tailoring of NASA's PM and SE requirements, and Requirement 22 of the AO is requiring all deviations that require a waiver to be documented in the proposal.

Q–32 When I attempt to submit an NOI, the web form will not let me proceed until I specify the dollar amount requested for each Civil Servant Team Member. Since I do not know these amounts yet, how do I proceed?

Since the NOI is non-binding, you may enter any amount and you will be allowed to proceed. We suggest you enter $0 for each Civil Servant team member.

Q–33 Referring to Page 19, are hosted payloads subject to the Telecommunications, Tracking, and Navigation SCaN provided services?

For hosted payloads, where the PI is not responsible for the host mission, proposals shall describe the investigation's requirements for telecommunications, tracking, and navigation, and the proposal shall describe how the host mission will meet those requirements.

Q–34 Regarding the *Proposal Structure and Page Limits* table on page B-2 of the draft AO, the table allows 2 additional pages for SEO. For proposals that include SEO activities, are these 2 additional pages restricted to SEO content only, or can the team use these 2 extra pages as they see fit - essentially spread across sections D and E, at the discretion of the proposal team, as long as the SEO activities are appropriately discussed?

For proposals that include SEO activities, the two-page allocation may only contain discussion regarding the SEO.

Q–35 If non-NASA alternative access to space is proposed, is approval from the NASA Flight Planning Board (FPB) and/or the Launch Services Officer required as part of the proposal?

Although the access to space may be arranged by the PI, NASA must still utilize launch services for NASA or NASA-sponsored payloads that are compliant with law and national policy. Therefore, yes, approval from the NASA FPB is required for all access to space options except as a hosted or secondary payload. For a hosted or secondary payload option, a presentation to the FPB is requested for awareness.

Q–36 Paragraph 3 of Section 5.6.7 Contributions states, "The cost of contributions does not include funding spent before the start of the investigation (i.e., before initiation of Phase B)." Does this mean that contributions in Phase A need not be identified and included in Total Mission Cost?

Contributions in form of labor and services are not required to be included in the Total Mission Cost in Phase A. However the cost of contributed hardware must be estimated in accordance to the rules set forth in paragraph 5.6.7.

Q–37 Requirement B-66 of the AO contains the following language: "Certain items (like electronic boxes and solar arrays) should include additional details, as applicable, to identify and separate individual elements. List each electronic board separately ..."

This is a new requirement for the 2014 AO (we haven't seen it before in previous AOs). Does this requirement pertain to ALL electronics boxes on the Observatory? Items such as transponders, star trackers, solar array drive electronics, inertial rate units, reaction wheels are typically build to print heritage items that have flown dozens of times and are made in relatively large quantities, with typically only one or two circuit cards in each device. We would assume this requirement in intended more for customized instrument electronics box or a spacecraft flight computer/command & telemetry electronics unit or a unit that would be used in the Electrical Power Systems (EPS) subsystem such as switch controller or battery charge regulator. Can you provide any guidance on what equipment is targeted for this requirement?

This requirement does not apply to off-the-shelf heritage items that are made for a wide group of customers. This requirement is intended for customized electronic boxes and electronic units where significant amount of resources are spent on design and development of hardware to satisfy a specific need.

Q–38 I understand that Orbital Sciences Corporation (OSC) is working with NASA on a concept to reduce the size of the launch vehicle (Pegasus rocket) avionics so that there is more room for payload. As a result of this change, the overall length and shape, and outer mold lines of the Pegasus launch vehicle stay the same but the payload fairing-to-rocket interface plane is moved toward the aft, leaving more room for payload. Is this true? Is there a mechanism available to handle such an option? The payload we are developing fits in the current fairing, but we could make good use of additional length and volume.

It is true that OSC has been working with LSP regarding the Pegasus Shortened Avionics Section (SAS) concept. However, at this point in time the SAS is nothing more than a concept. Significant resources would be required to implement this on a mission. Additionally it is not known at this time what the launcher will be and the envelope in the launch services information summary is currently the limiting case.

Q–39 How do proposal teams that are not associated with Goddard Space Flight Center tailor the elements of Appendices 1 and 3 for the MAR document 320-MAR-1001E for a Class D SMEX mission to the satisfaction of the GSFC Code 320 CSO and the Code 320 Deputy Division Chief?

No further guidance will be provided regarding tailoring of the mission assurance requirements in 320-MAR-1001E. It is the responsibility of the proposing team to identify a set of mission assurance requirements that is appropriate for the proposed mission.

A new document named "TMC on Class D Payloads" has been posted in the program library. This document, taken from Earth Venture Instrument – 2 (EVI-2) solicitation program library, outlines expectations of the TMC panel in the context of NPR 8705.4 (Risk Classification for NASA Payloads), Appendix C (SMA-Related Program Requirements for NASA Class A-D Payloads). For the purposes of the 2014 Astrophysics SMEX solicitation, proposers need to follow only the class D guidelines provided in "TMC on Class D Payloads." This guidance is in no way intended to be a comprehensive checklist regarding SMEX class D proposals, but rather is intended to be supplementary and educational with the goal of assisting the proposers.

Q–40 Requirement 23 states that systems must be at TRL6 by PDR, and the preceding paragraph defines "individual instruments" as systems for this purpose (WBS Level 3). According to this definition, instruments have to be built and tested before PDR. This seems inconsistent with the whole idea of PDR.

The TRL requirements do not mandate system level testing for maturing technologies to TRL 6 by PDR. Requirement B-37 calls for demonstration in a relevant environment and not necessarily a system level test. Please see the "System Level TRL 6 example" document in the program library for additional information.

Q–41 Section 5.9.4 identifies the rules for alternative access to space for this AO. Given that this is the first time the SMEX program has allowed such an alternative access, is it possible to have additional pages allocated to describe the alternative launch, similarly to the additional pages allowed for multiple instruments?

No additional pages are allowed for alternative access to space.

Q–42 Page v, Section I of the draft SMEX AO calls out Small Business Subcontracting Plan instead of Student Collaboration Plan.

The entry on page v, Section I has been modified to "Acknowledgement of Optional Student Collaboration" in the final SMEX AO.

Q–43 Is a SC considered an instrument for purposes of determining any extra pages allowed for Sections D-G since Section I only asks for the plan but not a description of it's science or engineering characteristics?

Student Collaborations have a two-page allocation limitation which may not be exceeded.

Q–44 If no SEO is proposed, is the max extra pages capped at 10 or 8?

Total extra pages are limited to 10.

Q–45 Where should GFE be shown in Tables B3a and B3b? We recommend insertion of a separate line to identify the GFE value below the PI-MMC but included in the Total Mission Cost.

The SMEX AO explicitly identifies only NASA-provided launch services as GFE. All other contributed hardware (government and non-government) should be included as part of the Total Mission Cost as contributions. List the contributions separately in tables B3a and B3b in the Total Mission Cost section. The NASA-provided launch services costs need to be included as part of PI-MMC.

Q–46 If a PI procures a primary launch, what role, if any, does NASA LSP have beyond the $2M monitoring and advisory role stated in Section 5.9.4.1.

None. LSP's role will be limited to the agreed-to monitoring and advisory role.

Q–47 Currently, the Near Earth Network (NEN) has very few stations with Ka-band capability.

a. Is there a planned upgrade path for NEN sites to add Ka capability?

b. Will there be a NEN Users Guide (NENUG) update released concurrently with the final AO with published link interface information, and for what NEN sites?

c. Is the proposer required to account for all costs of upgrading the specific station/stations, even if they are NASA/NEN stations?

a. There is a planned upgrade for NEN sites to accommodate Ka-band data receipt. The upgrade schedule and the order in which sites are upgraded depends on agency funding, priorities, etc. All proposers who contemplate using Ka-band for data transmission to the NEN should contact Network Integration Management Office (NIMO) prior to submitting their proposal, to confirm Ka-band availability for their particular mission.
b. The current version of NENUG is old and is currently being updated. The upgraded document will not be ready by the time the final AO is released.
c. If the proposers are planning to utilize communications approaches that are beyond present day standard NEN services, they should account for the costs of the upgrade, unless they are NEN-planned upgrades. Proposers should contact NIMO to verify the mission's communications approach and any potential mission concept implementation costs.

Q–48 In NASA's Mission Operations and Communications Services document in the program library, Section 1.5.8 (Coding), LDPC (Low-density parity-check code) is not listed as an acceptable coding which implies that LDPC will not be a basic capability of NEN in time to support the 2014 SMEX missions. If LDPC is required, would the proposer be responsible for funding for the specific NEN site upgrades?

The Near Earth Network (NEN) has LDPC 7/8, but only for X-band data reception. It has not been implemented, and is not planned to be implemented, for S-band. Presently, the NEN X-band LDPC is only available at the Alaska Satellite Facility (ASF) and Wallops Ground Station (WGS), to support IRIS (Interface Region imaging Spectrograph). If SMEX class satellites have the same support requirements as IRIS, and those missions are planning to use ASF or WGS, the NEN can accommodate the needs. However, if a SMEX mission requires LDPC and there are no prior plans to upgrade specific NEN sites, the proposers are responsible for the upgrade.

Q–49 Requirement 91 of the SMEX AO specifies that launching a NASA hosted payload on a foreign-provided spacecraft is only allowed when the provision of accommodations and launch services is contributed on a no-exchange-of-funds basis and is part of a legitimate scientific collaboration. Does the definition of foreign provided spacecraft refer to the spacecraft owner/operator (i.e. Intelsat, Iridium, etc), or the spacecraft manufacturer?

It refers to Owner/Operator.

Q–50 The SMEX AO states that an investigation can fund only Co-Is, but not Collaborators. There is also the expressed desire that the proposal teams be kept as lean as possible. However, there is a conflicting need to have a robust science team that will enable an investigation to complete its core science goals. This leads to the potential of requiring a large Co-I team, even if the funding levels for some of the individual scientists is low. Institutions could thus find themselves in the odd position of having analysis funds in Phase E that could only be used to support Co-Is and scientists NOT listed as collaborators on the proposal.

One possible solution would to maintain the restriction of funding to Co-Is during Phases A-D, but allow collaborators to be funded in Phase E. Would this be acceptable to NASA?

Individuals who are proposed to be funded are considered CoIs, not collaborators, regardless of mission phase.

Q–51 Consider a case where the proposed NASA investigation is a secondary payload that separates from the primary payload. The primary payload selects a non-NASA commercial launch vehicle that may be foreign. There is no business relationship between the launch services provider and NASA. Can you comment on how the U.S. National Space Transportation Policy applies to this case?

The proposed payload is considered to be secondary; therefore the proposer needs to demonstrate there are no U.S. Launch services available.

Q–52 The references to the U.S. National Space Transportation Policy document, Section 5.9.4.1 of the SMEX AO appear to be in conflict. There is a link to the current 2013 version and a reference to a section that appears in the 2004 version. Please confirm that the 2013 version is relevant.

Instead of Section V(a), the reference should be: "Section IV, International Collaboration" in the 2013 version of the "U.S. National Space Transportation Policy" document.

Q–53 The AO clearly states that NASA Contributed Costs must be non-SMD. However, this creates a problem for those NASA civil servants who are funded 100% by project funds, but allowed some fraction of their time to perform research of their choice. Thus, in prior proposals for SMD we did not charge our time to the proposal but listed it as a NASA contribution. However, if we do this for the SMEX proposal we would be in violation of the direction that the contributed funds must be non-SMD. What is your guidance regarding this matter?

For the purpose of evaluating the cost of your SMEX proposal on an equal footing with other SMEX proposals, you need to include the time and cost of your proposed efforts not as a contribution, but as a direct cost as you would any other proposed civil servant labor.

Q–54 Requirement B-24 states, "Resumes or curriculum vitae of science team members shall be included as appendices to the proposal (see Section J.3 of this appendix)." This suggests that all science team members must submit resumes. But Requirement B-56 in Section J.3 says "This section shall include resumes or curriculum vitae for the PI, PM, all Co-Is identified in the science section, and for any key project personnel who are named in the proposal." Is the correct interpretation that the only science team members who must submit resumes are the Co-Is?

No, all science team members must submit resumes or curriculum vitae (Requirement B-24).

Q–55 Could you specify a nominal start date for all projects solely for the purposes of consistent costing and scheduling, such as a selection date of March 1, 2017? We think this will help teams across the board for consistency.

The AO targets early 2017 as the date for downselection of the investigation for flight. If proposers wish to assume a March 1, 2017 start date, that would be consistent with an early 2017 downselection date.

Q–56 Appendix F (Compliance Checklist), Item 3 is: "Original signature of authorizing official included" and refers to Requirement B-5. Signatures are addressed in Requirement B-8 and not in Requirement B-5. Since there is no mention of paper copies in the AO, how do we provide an original signature of the authorizing official? Section 6.2.4 says that the Electronic Cover Page must be submitted by an official who is authorized to make such a submission. Does this substitute for an original signature, or are both required?

Yes, the submission of the Electronic Cover Page by an official who is authorized to make such a submission is accepted as the required original signature.

Q–57 The AO specified that only electronic submissions of 40 MB or less are required. With no paper copies and such a limited file size, we are concerned that foldouts and other graphics will not be at sufficiently high resolution to be legible or enlargeable, which we assume is the intent of the 100 MB limit for the CD-ROM version. Can the proposal be broken up into sections on the CD-ROM? Can foldouts be included on the CD-ROM as individual files (in addition to their inclusion in the main proposal PDF)? If so, then can we assume the reviewers be receiving the higher-resolution files?

The entire proposal document must be submitted as a single PDF on the CD along with other supporting files allowed as described in Requirement B-6. The electronic proposal document file size is limited to 40 MB. Higher resolution individual figures/foldout pages may additionally be provided as clearly identified separate files, but no new content may be added. The total contents of the CD may not exceed 100 MB. The proposer should not make any assumptions as to the use of these files.

Q–58 Requirement 89 states, "The proposal must describe the approach for NASA's insight for launch services, and …." Can you provide more guidance on how the proposal can describe "the approach for NASA's insight for launch services?"

When using non-NASA launch services, the proposal must provide input regarding NASA Launch Services Program's insight role for launch services that is necessary based on the description of launch vehicle monitoring functions and advisory services found in the *NASA Launch Services Program (LSP) Advisory Services Plan* that can be found in the Program Library.

Q–59 Section 4.3.4: We are essentially expected to match a non-specified funding profile. It would be helpful to have this "typical" profile (or planning budget) was specified in the AO.

Section 4.3.4 of the AO says, "Proposers must not assume that NASA can or will accommodate proposals whose requested funding profile differs significantly from the Astrophysics Explorers Program's planning budget for this AO." The FY2015 President's Budget Request can be obtained at: http://www.nasa.gov/sites/default/files/files/508_2015_Budget_Estimates.pdf, and in this document can be found on page ASTRO-47 (pdf page 226) the following information pertaining to the Astrophysics Explorers Program planning budget:

	Budget Request	**---------- Notional ----------**			
Fiscal Year	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Astrophysics Explorer Future Missions	$5.60M	$28.00M	$49.10M	$134.90M	$163.30M

Q–60 The "Launch Services Costs" Section of the "SMEX 2014 Launch Services Program Information Summary" dated 6/17/2014 specifies, "The Astrophysics Explorer Program will hold the launch service costs. Standard services provided in the launch service costs to be covered by the Astrophysics Explorer Program are: . . . potential additional funding needed to support selectees requiring launch from sites other than the LV base launch complex." Table 1 in Attachment 1 lists the launch vehicle performance from typical inclinations for most common launch sites. Does this mean that any additional funds required to launch from "non-base launch complex" launch sites is included in the launch service cost and will not be charged against the PI-Managed Mission Cost? Are all launch sites listed in Table 1 considered "standard" service, with no additional funds required to launch from any of them?

The launch sites listed in Table 1 are considered "standard" launch sites, with no additional charges against the PI-Managed Mission Costs required to launch from any of them.

Q–61 In Section 5.6.6 of the SMEX AO says, "Per HQ policy guidance signed in June 2010 by the Associate Administrator, Mission Support Directorate and by the Agency Chief Financial Officer, all Centers shall use an identical CM&O burden rate of $43K (RY) per "equivalent head." Per Agency policy, this rate must be applied as a "cost per equivalent head" to all Civil Service FTEs plus on/near site contractor WYEs associated with the proposal." Wouldn't a percentage of each employee's salary be more appropriate?

The guidance provided in Section 5.6.6 is agency policy and will not be modified for this AO. That guidance should be followed by the proposers.

Q–62 For the NASA provided launch vehicle option on the SMEX, how should the costs for the $50M launch vehicle be phased? Given that the required cost tables are broken out in detailed phasing, what is the launch vehicle cost phasing that proposers should use?

The $50M fee for access to space by NASA should be spread across phases B through D.

Q–63 Requirement 86 states that the proposer shall provide a Letter of Feasibility from the NASA Space Station Payloads Office. Which appendix should this be provided in?

Letter of Feasibility from the NASA Space Station Payloads Office should be included in Section J.2 along with the letters of commitment.

Q–64 The wording of Requirement 70 implies that the credibility of a proposal's plans to have foreign contributions will be evaluated by the TMC panel as risk. Can you please clarify whether the TMC panel or NASA HQ will evaluate the reliability (and hence the risk) for each foreign partner's contribution?

The sentence immediately preceding Requirement 70 says: "The stability and reliability of proposed partners, and the appropriateness of any proposed contribution, will be assessed outside of the evaluation process, as a programmatic risk element in the proposal." TMC panel's evaluation will not address the stability and reliability of proposed contributing partners, nor the appropriateness of any proposed contribution. The stability and reliability of proposed partners, and the appropriateness of any proposed foreign contributions will be taken into consideration by NASA HQ as part of the selection process.

Q–65 Do we need certified cost for the Bridge Phase to be included in the Phase A proposal, or is the costing that is to be provided during Phase A?

The Bridge Phase is an option in the Phase A concept study contract that will be required only for investigations that are selected at the outcome of the Step-1 competition. The currently solicited proposals are not required to include cost and pricing data for Phase A concept studies and subsequent phases. See section 7.4.3 of the SMEX AO.

Q–66 Is submission of subcontractor's detailed proprietary cost proposal data required for this Phase A proposal? If so, then we respectfully request guidance regarding the specific address to which subcontractors should submit their proprietary cost proposal data to NASA?

The AO does not specifically request subcontractor detailed proprietary cost data. The AO requires cost data to be specified to WBS level 2 (Requirement 59). The requirements for preparation of cost data are described in Appendix B, Section H. NASA will only accept cost data as part of the proposal.