ESSP-3 Announcement of Opportunity
Questions and Answers

Below are answers to questions from proposal teams involved in the ESSP-3 Competition for NASA AO-01-OES-01.

Answers may be updated or modified.

Updated answers will be designated "AU" and will follow original answer.

Modified answers will be designated "AM" signifying the original answer has been reworded.

ESSP Pre-Proposal Conference Questions June 14, 2001

1) **Mission Confirmation Review**

Q: Can objective criteria be provided to the teams **now** regarding the downselect at Step 3? (Mission Confirmation) How will the "proposed" missions be evaluated against each other? Obviously we know that NPG 7120.5 guides the usual mission confirmation but provides an absolute standard. If this standard is met, the mission will be confirmed. In case of ESSP-AO3, the absolute standards **can** be met, by each mission independently, **and** yet some missions will be terminated. What will be used to decide termination at **mission confirmation**?

A: **For objective criteria on the confirmation review, see the Earth Explorers Mission Assurance Guidelines and Requirements (ESSP-3 AO Appendix H).**
The Mission Design Review will assess the projects' ability to meet mission success criteria of cost, schedule and performance. The ESE AA will decide, based on the briefing of findings by the executive committee, which project teams will proceed to Confirmation Review. The AA's decision will be based upon the science value, the feasibility to implement the mission successfully (Level One) and the funding priorities of the ESE.
Upon selection to proceed by the AA ESE, the project will hold a Mission Confirmation Review with the Goddard PMC. The criteria to be confirmed is strictly the recommendation of the Goddard PMC, based ion the project's ability to achieve mission success. Should a mission not be selected for confirmation, it is not considered termination, and the PI can repropose later.

2) **Step-Two Evaluation Process**

Q: Will there be a full science evaluation in Step 2 or just evaluation of changes?

A: **Step Two will include a full evaluation of the science/applications.**

3) **AO Technical Requirements**

Q: Is debris assessment required for Step One?

A: **Debris Assessment is not required for Step One. General information on Orbital debris will be derived from spacecraft size and general orbit information. (Phil Napala)**

4) **AO Cost Requirements**

Q: The available funding for formulation is inconsistent with the requirements to reach PDR/MDR. NIAT has emphasized the importance of an adequate formulation process, and GSFC PMC expects this. Is ESSP willing to accept a "PDR-lite" and push traditional preliminary data into the implementation phase?

A: **No. PI's should propose the necessary funding for the task and schedule proposed. A "PDR-lite" and delaying formulation activities for implementation phase are not acceptable. We are in the process of reevaluating the funding profiles for this effort.**

5) **Miscellaneous**

Q: I'm interested in teaming. Is there a plan to publish the attendees of this preproposal conference? The "ESSP Teaming Interest" site only contains a subset of contractors. How can I find out who the major (prime) contractors are likely to be?

A: **The attendees list from the Pre-Proposal conference will be listed on the ESSP AO website at http://centauri.larc.nasa.gov/essp/ESSP_PProp_Conf_Attend.pdf. For a list of major contractors, see the list of parties interested in teaming in the handout available today or on the ESSP AO website.**

6) **Launch Services**

Q: MO and DA budget must include reserved retrieval cost for ISS payload considerations. How do we estimate this?

A: **For payloads that fly on the International Space Station (ISS), the payload must support retrieval from orbit and return to the ground. The PI's MO and DA budget must include the support costs necessary for the PI and his/her team to perform the retrieval activities such as flight and ground safety reassessments, ground handling of the hardware upon return, developing any new procedures and deintegration and return of any ISS carrier hardware or other government-owned hardware to a government-designated facility. There is no charge to the PI for transportation of the ESSP payload back to Earth on the STS.**

7) **Launch Services**

Q: If we contract with a U.S. launch service that is not on NASA contract, must we still meet the NASA policies on launch services?

A: **Yes, the offeror must explain how they will meet the launch service policies whether it is a NASA-contracted or PI-contracted launch service.**

8) **Development Time**

Q: AO states that time from MCR through launch is 36 months. Statements in the PreProposal conference mentioned this timeframe was "nominal." Can a proposer offer a mission with less than 36 month development, or a mission with greater than 36 month development? Is there a limit to either an earlier or later end date?

A: **The AO calls for a nominal period of 36 months to achieve launch readiness. Final selections will not be made before June 2003. The funding profile for ESSP is based on flights using a NASA-provided ELV in 2006. IF the mission cost is low enough, then some flexibility may be allowed. Be sure to allow for storage and team retainage costs should your schedule be less than 36 months and your launch slips. If your schedule is longer that 36 months, make sure you have enough reserve (contingency) in your budget to cover a longer duration mission schedule. Your mission also has to fit within the ESSP-3 funding profile given at the conference and that may also affect your schedule.**

9) **Miscellaneous**

Q: For proposers not familiar with RSDO etc., this is way too late to find out about assessments. Also, new cost and evaluation info is difficult to incorporate this late. Two suggestions: 1) in the future hold conference within one week of AO release and 2) consider extending the due date for Step One so proposers can best meet your requirements. We want to give you good proposals and successful missions - help us be responsive!

A: **We cannot extend the deadline for the submission of the ESSP-3 Step One proposals. However, your suggestion will be taken into consideration for the next round.**

10) **AO Cost Requirements**

Q: Cost Table K-9 has a top section and a lower section (Development? and Ops?). Is the upper section exclusively for pre-launch and the lower section exclusively for post launch?

A: **No. The top section, "Mission Development," is intended for development activities. The bottom section, "Launch and Mission Operations," includes prelaunch and launch activities, as well as operations activities.**

11) **Miscellaneous (similar to #9)**

Q: By holding this conference within one month of proposal due date, much of the information provided, particularly cost, will be "challenging" to incorporate into the formal review processes at the home institutions. In the future, can you hold this conference within one week of AO release?

A: Your suggestion will be taken into consideration for the next round.

12) **Miscellaneous**

Q: Will the presentation charts from this pre-proposal conference be posted on the web?

A: Yes, all presentations are available at:
http://centauri.larc.nasa.gov/essp/overcharts.html

13) **Miscellaneous**

Q: How much time is there between mission confirmation review and mission implementation?

A: Once a mission successfully completes mission confirmation, the implementation phase begins immediately.

14) **AO Management Requirements**

Q: AO Section 3.7 states, "Use innovative approaches necessary to stay within the strict cost and schedule limits." How do we coordinate such streamlining with NASA for review and approval? Is there a penalty for recommending tailoring of the cost reporting and mission assurance guidelines called for in the AO?

A: NASA NPG 7120.5 states that tailoring of project requirements is based on several factors. The PI should coordinate with the Earth Explorers Program Office and the EEP mission manager to assess and receive approval for tailoring of project requirements. Tailoring of financial requirements is negotiable with the EEP office. However, the intent of the AO must be upheld and shall not be compromised.

15) **AO Contributions**

Q: Are US government contributions (other than NASA) counted within the $125M cap? It is our understanding, for example, that services, infrastructure or products contributed/provided by a US government agency (not NASA) are part of total mission cost but not counted against the $125M.

A: Contributions by non-NASA US government agencies are part of the total mission life cycle cost (TMLCC), but are not included in the $125M NASA ESE cost cap.

16) **AO Cost Contributions**

Q: If my institution has previously developed parts of the proposed flight hardware Using other US government funds, is that funding deducted from the $125 M?

A: **Previously developed hardware and software are not deducted from the $125M cost cap. The $125M cost cap is for NASA ESE funding that begins with Step Two Selection.**

17) **Miscellaneous**

Q: Resumes are required for Step One. Are Step One resumes for science team and PI only? Are resumes for other key individuals such as PM and system engineer required for Step One? Optional for Step One?

A: **As stated in Appendix K, Section L (Appendices), resumes or curriculum vitae for all NAMED team members are required. Project manager must be named in Step Two.**

18) **Step One Evaluation Criteria**

Q: Will the 6-8 proposals rated "selected" or "encouraged" to proceed to submit Step Two be ranked, and will the rankings be made available to PI's?

A: **No, the proposals will not be ranked. The PI will receive an evaluation form from the Step-Two process that will discuss proposal 'strengths' and 'weaknesses'.**

19) **Launch Services**

Q: As a mission option, the AO states that the EXPRESS Pallet or WORF may be utilized aboard the ISS. Is there a limit on the mission length if an EXPRESS pallet is chosen? Also, do NASA ESE funds cover the cost of launch services to the ISS?

A: **The amount of time an instrument can be left on orbit depends on the amount of time required to obtain the proposed science/applications data and the priority of other missions waiting for flight. All proposers should assume that they will be allowed to remain on orbit as long as it is necessary to obtain the data but may be required to justify extended on orbit stays.**

Yes, NASA ESE funds will cover the cost of launch services to the ISS. However, costs associated with using the launch services (i.e. support for payload integration to carriers, document preparation [ICDs, Safety Data Packages] & payload review travel costs) are <u>not</u> included and should be included in your proposed mission cost estimate.

20) **Launch Services**

Q: In the ESSP AO in the '3.1.4 Launch Services' section, in the second paragraph on page 17 it says:

"Please note that although NASA will fund the Government launch services separately, NASA
Earth Science Launch Services Cost will be considered and evaluated as part of the total NASA Mission Cost. All launch services shall be costed in the proposal whether funded by NASA or not."

However, at the Preproposal Conference it was said that there was no cost associated with using the Space Shuttle, which is the vehicle we were going to propose. Does this mean that in our proposal we should say there are no launch costs associated with putting an instrument on the EXPRESS Pallet since it is going to be launched by the Space Shuttle? Or do we have to come up with some estimate of launching an instrument on the Shuttle?

Any help and or guidance you could give would be greatly appreciated.

A: **While there is no cost for the Shuttle launch itself, there will be costs incurred in preparing your payload for a shuttle flight and supporting the integration of your payload to its carrier at KSC. This carrier is the EXPRESS Pallet for pallet payloads. WORF payloads have several transportation options including shuttle lockers, spacehab, or the MPLM. In addition to considering your personnel at KSC during integration and costs for payload required non-standard services (reference the ISS document in the Program Library), the Research Program Office (RPO) at GSFC is preparing files that will help define the documents you need to supply and reviews you have to attend to launch a payload on the shuttle and operate it on the ISS. These documents do not necessarily contain all of the requirements necessary to launch a payload on the shuttle and fly on the ISS since the requirements are still evolving as the ISS is being built. They will, however, help you better understand what your mission will have to provide to NASA so you can budget the appropriate resources. These files are under review by JSC and will be posted on the RPO website (http://rpo-iss.gsfc.nasa.gov/). Support for payload retrieval and return flight on the shuttle at the end of the payload life will also need to be considered.** ***See A6 for more information on payload retrieval costs.***

Questions Submitted After Preproposal Conference

21) **Miscellaneous**

Q: At the pre-proposal conference, Claude Freaner encouraged proposers to submit Table K-6 to help NASA with parametric modeling of the mission. However, the page limits make it very difficult to find a suitable location to fit this large table, which is optional for STEP One. The proposers would like to assist NASA by providing this informatin to improve the accuracy of the cost-risk evaluation. Any suggestions on where to include the Table without impacting the page count?

A: **Any proposer who wishes to attach a Table K-6 to a Step One proposal may attach it as the last page of the proposal; it will not be counted in the page count limitations**.

22) **Miscellaneous**

Q: Do we REALLY have to have all of our Co-Is and science team members sign up with SYS-EFUS?

A: **Yes, all CoI's and science teams' members should sign up with SYS-EYFUS. Team members don't all have to be identified by the NOI submittal date (June 22, 2001), but they should be identified by the Step-One proposal due date of July 20, 2001.**

23) **Miscellaneous**

Q: Some of the PIs are getting "funny error messages", when they submit the NOI on SYS-EYFUS.

A: **SYS-EYFUS has been having some technical problems, but they are working on it and it should be resolved. Keep trying and be patient when accessing the SYS-EYFUS system, it does work!**

24) **Miscellaneous**

Q: Could you verify at least the number of Goddard PI NOI's received so far?

A: **We are not permitted to tell you how many NOI's have been submitted from Goddard, but if you would like to submit to Dave Pierce a list of names of PI's that would like to confirm that their NOI's were received, we will be happy to send a confirmation receipt to the PI's so they know if their NOI was received.**

25) **AO Science/Applications Requirements**

Q: The mission design table K-5 calls for a number of items which may not be applicable to all proposed investigations (such as items refering to Parking Orbit). May those rows be omitted from the table to conserve space? Does this apply to all required tables?

A: **Please do not omit any rows. Simply type in N/A for not applicable.**

26) **<u>AO Science/Applications Requirements</u>**

Q: Table K-4 is required in section F and counts against the 12 page limit. To be of any real value this table may easily exceed a full page in length when properly filled out. Do you expect to get the value/summary column to contain anything more than a simple phrase or numerical range for the Step 1 proposals?

A: **As stated in the AO, the table ask for values or summaries. The summaries can be as short or as long as PI needs to explain the requirement. It must fit within the page limit.**

27) **<u>AO Science/Applications Requirements</u>**

Q: Table K-4 calls for power, data rate, ... and these can reasonably be expected to fit in a table entry. Then at the very bottom of the table, it requests for this data again, but now broken down by operating mode. Is this level of detail a reasonable expectation for a step 1 proposal? If yes, can the detailed information, which would require a table unto itself be provided in an appendix in order to conserve space counting agaainst the 12-page limit?

A: **All table entries should be answered to the best of the PI's ability at the time the proposal is submitted. It is understood that these will be conceptional responses. The table is required within the 12-page limit.**

28) <u>AO Technical Requirements</u>

Q: Is it appropriate to include tables K-5(a) "Mission Design Table" and K-7 "Required Launch Service Table" if the proposed Mission will use the EXPRESS Pallet/ISS/Shuttle?

A: **Yes, it is appropriate and required. If a line is not applicable to your specific proposed mission, put "n/a" on it.**

29) **<u>AO Technical Requirements</u>**

Q: We have the information for several of the 'Step-Two' tables (specifically K-6 and K-8) but the page limit restricts us from adding these tables to the technical section. At the pre-proposal meeting a question was raised and I received the impression that if we had this information it would be best to provide it. Can we add these tables as an appendix to our proposal even though it is not listed in paragraph L of appendix K?

A: **Tables K-6 and K-8 can be added to the end of the proposal without being counted in the page count limitations.**

30) **<u>AO Science/Applications Requirements</u>**

Q: Is there a maximum mission length for the EXPRESS Pallet option?

A: **The mission length should be set as the time required to obtain the proposed science/applications. A PI should keep in mind that there may be other payloads who need the EXPRESS Pallet accommodations and the Earth Science Enterprise will have to make a judgement based on the Enterprise's priorities as to when a mission must end.**

31) **<u>AO Cost Requirements</u>**

Q: We are proposing to place an instrument on an EXPRESS Pallet destined for the International Space Station. Our instrument sends data out at about 45 kbps (very low rate). Our understanding is that the data goes from the pallet to the Ku-band dish, to TDRSS, to White Sands and finally to Marshall where it will be sent out to the user. We are also putting together our budget and need to know if there is money that has to be allocated in our budget for costs at Marshall SFC for getting this data down and out to the user. Or is this covered by the ISS operations?

A: **The data downlink from the ISS through the TDRSS, White Sands, etc., up to the MSFC is no charge. The MSFC also does not charge to send out the data to a customer with the exception that if a data circuit is required from the MSFC to the customer's site, then the customer must pay for the circuit. If there exist data circuits from MSFC to a customer's site, then the customer may be able to negotiate a deal with the owner of those circuits.**

AU: ***The most efficient scenario is to connect to the science internet (Abilene). That connection is the responsibility of the PI. The point of contact at MSFC for more detailed discussions is Cathy Lapenta, 256-544-5785.***

32) **<u>Electronic Version of Proposal</u>**

Q: The instructions for the cover page in App. K, Para A, are quite different from the level of detail required in the SYS-EFUS forms. Is the SYS-EFUS cover page REQUIRED, or can we generate an Appendix-K compliant cover page and submit in hard copy and electronically?

A: **Submittal of the Proposal cover page in the SYS-EYFUS Web site is optional, but a Proposal Cover Page is required to be attached to the hard copy of the proposal.**

This matter is addressed in section 1.2.2 of the ESSP AO which states:

1.2.2 Cover Page

A proposal Cover Page is required as part of the proposal, but will not be counted against the page limit. The cover sheet must be signed by the Principal Investigator and an official, by title of the investigator's organization, who is authorized to commit the organization.

The proposal Cover Page **may** be submitted electronically to the SYS-EYFUS Web site located at http://proposals.hq.nasa.gov/. If the proposer has submitted an electronic NOI to SYS-EYFUS, the same User ID and password can be used to complete the electronic proposal Cover Page. SYS-EYFUS will allow the user to copy the NOI information into the proposal cover page to update as necessary

32a) **Electronic Version of Proposal**

Q: If we must use the SYS-EFUS cover page, is there means to add additional year to the budget section? The current web page only has 5 years in it and there does not appear to be a means to add additional years.

A: **The Proposal Cover Page template on the SYS-EYFUS web site does only allow cost data for 5 years. During the compliance check, the NPRS staff will be checking the hard copies of the proposals (including cost data) against the web input. Cost data in any proposal received that exceeds a 5-year profile will be input manually into SYS-EYFUS by NPRS staff. Therefore, any proposal that has a cost profile exceeding 5 years should just input the cost for the first 5 years into the proposal cover page, and the NPRS staff can add any other data at proposal check-in.**

33) **AO Science/Applications Requirements**

Q: Can we combine tables L-3 and L-4 into one?

A: **No. Please provide tables as requested. We have different evaluators reviewing different sections of the proposals. If the tables are not provided in the requested section of the proposal the PI runs the risk of an evaluator not finding all the information needed to properly evaluate the proposal.**

New Questions since Ocotber 1, 2001:

34) **Schedule**

Q: The ESSP3 Step 2 proposal submission deadline was originally January 11, 2002, but I heard it was moved to a later deadline. What is that new deadline date?

A: **The deadline for ESSP-3 Step-Two proposals has been moved forward to February 4, 2002. Other ESSP-3 schedule dates have changed as well. Go to the "ESSP-3 Schedule" link on the ESSP-3 homepage to view the latest changes.**

35) **Schedule**

Q: We see that the schedule has been changed. Is there a method that we can be automatically be notified of any changes to the ESSP A03? For instance, if the schedule changed or if new appendicies were released then we would be automatically be notified.

A: **Since ESSP-3 is still in the competitive process, the only way for proposers to keep informed of changes is through the ESSP-3 website. The ESSP-3 website (http://centauri.larc.nasa.gov/essp/), will be updated weekly. Most updates will be in the interactive Question and Answer site (http://gaia.hq.nasa.gov/essp3steptwo/),**

changes to the schedule and AO requirements will be noted in the Announcements link (http://centauri.larc.nasa.gov/essp/announcements.html) on the ESSP-3 homepage.

36) **AO Technical Requirements**

Q: From the AO, page K-8:

"Letters of endorsement shall be signed by institutional and Government officials authorized to commit their organizations to participation in the proposed investigation and shall include the signature, full name, address with zip code, telephone and fax numbers, and electronic mail address. These letters shall describe the offered goods/services and their associated value/cost. The letters of endorsements shall be included in Section L of the proposal; the one page summary in Section E.

The institutions and/or governments involved shall endorse any participation by foreign individuals and/or institutions as team members or contributors to ESSP investigations. ..."

Does this last sentence mean that all participants' endorsement letters must (In their letter) also endorse any foreign participants that the mission uses?

A: **It simply means that the foreign institutions and/or foreign governments must state in a letter of endorsement that they are aware of the proposed participation of foreign individuals and/or institutions and they are prepared to support the proposed activities. This must be done to ensure that the foreign individuals and/or institutions have the funding they will need because they can not be funded with U.S. government funds (no exchange of funds).**

37) **Electronic Version of Proposal**

Q: The AO requires that the electronic version be in MSWord for Windows. We would very much like this constraint to be reconsidered, for the following reasons.

(1) MSWord is a very unstable tool. Symbols, Greek letters, and other characters are rendered in arbitrary and sometimes unreadable form, depending on the font set available on each machine.
(2) MSWord cannot manage figures in even a modest-sized document. They appear at random placement, move of their own accord, even overlapping text, tables, and other figures. Not acceptable.
(3) Color management is very poor.
(4) The legality of requiring a specific platform (PC, by implication) is questionable.

If Sponsor utility and faithful reproductions of the proposal are the objectives, we suggest the following. Accept PDF as the primary electronic format. These files are stable, and platform-independent. These files can be submitted on a CD, and should be accessible by anyone. If changes have to be inserted by the Sponsor or their agent, these can be done through Adobe Acrobat.

(If there remains a requirement for MSWord, then text-only files could be submitted in that format, although such text would still include character transcription errors beyond the control of either the author or the reader.)

The cost volume can be in Excel.

AM: (Answer Modifed 11/15/01)
Refer to page K-4 of Appendix K, which states, "All information shall be provided on DOS-compatible (version 5.0 or higher) 100 Megabyte Zip disks or CD ROM and in pdf and Microsoft Word for Windows format (version 6.0 or later) or Microsoft Excel Version (windows 95 or later)."

The ESSP-3 Executive Committee understands that there are problems with MS-Word. While you have to provide electronic copies of your proposal, the print version you provide takes precedence over any electronic version. If problems appear in the electronic version (i.e. figures moving, text and symbols changing), we will refer to the printed copy for clarification.

38) **Launch Services**

Q: Considering the recent failure of a Taurus ELV, will the Athena II be approved for ESSP-3?

A: No. NASA does not have a launch services contract for the Athena II vehicle.

39) **Schedule**

Q: We request clarification regarding the ESSP mission schedule, and the dates of major milestones. Proposers need to understand these major milestone dates, since the detailed cost estimates required by the AO are highly dependent on them. We request this clarification as soon as possible so that the proposers can properly develop their detailed cost estimates. Specific questions and recommendations are as follows:

1) The "*Announcement of STEP-Two Selections*" date was slipped about 3 months from March 2002 (in the AO) to June 28, 2002. However, the PDR/MDR, Missions Selected to Proceed, Confirmation Readiness Review, and Mission Confirmation Review dates were not slipped from the dates in the AO. Is this intentional, or is a corresponding slip of those dates also being considered? If so, then when would we expect to hear new dates?

2) The date for "*Announcement of STEP-Two Selections*" is now stated as June 28, 2002. Each proposal must then make an assumption on when they can get on contract to start work. In order to compare all the proposals on an equal basis, it would be useful to pick a uniform "Nominal Project Start" date for all of them, even if that date turns out later to be incorrect. We recognize that the time to get on contract may vary for different institutions. However, we believe that picking a common start date would be preferable to allowing each proposer to make their own assumptions. It would be beneficial for planning purposes, and for equitable comparison. Therefore, we recommend that a Nominal Project Start date also be provided in the ESSP schedule.

A: **1) The dates for the PDR/MDR, Missions Selected to Proceed, Confirmation Readiness Review, and Mission Confirmation Review are under review and will be announced at the Step-Two Kickoff Meeting on 11/15/01. Schedule date changes will be posted on the ESSP website when available.**

2) Selected teams can start anytime after the ESSP-3 Step-Two Selection Announcement date, June 28, 2001. However, there will be no NASA funds available until after the mission contract has been signed by all parties. The estimated time to get the contract in-place is 30-60 days after the selection date.

40) **AO Technical Requirements**

Q: There is some ambiguity in the AO quote regarding resumes. Recall, the AO states:

"1. Resumes. Provide resumes or curriculum vitae for all named team members identified in the proposal and on form Section B -Investigation Summary Form II."

Suppose we had the following data:

persons (a, b, c, d, e) are the only ones named in the "proposal".
persons (b, e, z) are the only ones named on Form II.

Hence there are two ways to read the AO text:

Way 1: Get resumes from "the union set": (a, b, c, d, e, z)
Way 2: Get resumes from "the intersection set": (b, e)

As you can see, there is a huge difference. Which "Way" should we follow?

[... note another problem: Summary Form II is (from our point of view) part of the "proposal". So the two ways described above are technically still flawed (i.e., the AO text quoted below subtle redefines Form II as not being part of the "proposal").]

A: **A curriculum vitae is required for anyone mentioned as part of the team in proposal step 2 submittal or in Section B. It is not necessary to list more than 1 page of relevant publications in the curriculum vitae.**

41) **Miscellaneous**

Q: The web page at http://gaia.hq.nasa.gov/essp3steptwo/ indicates that I send ESSP3 Step2 questions to David Pierce. However, I was also told that Chuck Williams was the point-of-contact for receiving questions.

Who should I email my questions to: Chuck or Dave?

A: **Mr. Williams is now your NASA point of contact for all ESSP-3 related matters. Questions should be e-mailed to Chuck Williams (mailto:charles.p.williams.1@gsfc.nasa.gov). The Q&A website has been updated to reflect this.**

42) AO Technical Requirements

The AO reads (starting on pg. K35),

"2. Statement of Work (SOW) and Funding Information: For investigations managed from non-Government institutions, provide a SOW. For investigations managed from Government institutions, provide a SOW as if the institution were non-Government. The SOW shall include general task statements for Phases Mission Definition and Design, Mission Detailed Design, Mission Development and Launch, and Mission Operations and Data Analysis, Archival and Dissemination for ESSP Investigations, and performance metrics. All SOWs shall include the following, as a minimum: Scope of Work, Deliverables (including science/applications data), and Government Responsibilities (as applicable). SOWs need not be more than a few pages in length. Funding information and documentation shall be provided that identifies how funds are to be allocated among the organizations supporting the investigation. Funding documents shall be provided that are necessary to allocate the correct amount of funds to each organization supporting the investigation."

We have many mission team partners. In general, one might say there are 4 different types of partners:

1. partner doesn't provide contributions and doesn't receive funding (but supports the mission anyways)
2. partner does provide contributions and doesn't receive funding
3. partner doesn't provide contributions and does receive funding
4. partner does provide contributions and does receive funding

Which of the 4 should provide a SOW? (I assume #3, and #4 do)

A: **All partner institutions whether funded or unfunded, must submit a SOW detailing their activities and products provided.**

43) **AO Technical Requirements**

Q: The AO reads (on pg. K-36):

"6. Relevant Experience and Past Performance. Relevant experience and past performance (successes and failures) of the major team partners in meeting cost and schedule constraints in similar projects within the last ten years shall be discussed. A description of each project, its relevance to the proposed investigation, cost and schedule performance, and points of contact (including addresses and phone numbers), shall be provided."

The phrase "major team partners" is not rigorously defined. We have many team partners in our mission ... which ones should we consider as "major", i.e., tell me specifically what types of partners you request Relevant Experience and Past Performance paperwork from.

A: **List as major team partners all the partners you consider important to the review committee as part of the Step 2 submittal.**

44) **ESSP Library**

Q: The post secondary minority institution list is not assessable at the URL (http://www.ed.gov/offices/OCR/99minin.html) provided in the ESSP3 AO.

I need to check this list now. When will it be available?

A: **The URL is incorrect. The correct URL is http://www.ed.gov/offices/OCR/minorityinst.html. This link is also listed under the 'GENERAL REFERENCE INFORMATION:' section of the ESSP-3 AO Library.**

45) **AO Technical Requirements**

Q: The ESSP-3 Sample letter of endorsement on the ESSP Website states, "Example Letter of Endorsement for Co-I's and Subcontracts valued at $500K or less".

Why are "Subcontracts valued at $500K or less" required for the endorsement letter when it states in Appendix K, Section M multiple times that subcontract "exceeding $500,000" is all that is required?

A: **Section E of Appendix K, page K-8, which states "Letters of endorsement shall be provided from the following no matter the dollar value:**

- **Participants/Organizations in the proposal including NASA participants/organizations,**
- **All organizations offering goods and/or services on a no-exchange-of-NASA-funds basis,**
- **Foreign organizations providing hardware or software to the investigation,**
- **Launch Service provider, if the launch service is not provided through a NASA contract.**

46) **AO Technical Requirements**

Q: There is some confusion about the association of Phases as they presented in various sections of the AO. According to the AO Section 3.2: "...mission phases are defined as:

Phase 1: Mission Concept Studies
Phase 2: Mission Definition and Preliminary Design
Phase 3: Mission Detailed Design
Phase 4: Mission Development and Launch
Phase 5: Mission Operations and Data Analysis, Archival, and Dissemination"

Q46a: 1) Are the above associations correct?

Q46b: 2) To add further clarity, are the following associations correct?

Phase 1: (Phase A): Mission Concept Studies
Phase 2: (Phase B): Mission Definition and Preliminary Design
Phase 3: (Phase C): Mission Detailed Design
Phase 4: (Phase D): Mission Development and Launch
Phase 5: (Phase E): Mission Operations and Data Analysis, Archival, and Dissemination

Appendix K, Section M states, "Requests for cost by "Phase" refer to Phases Mission Definition and Preliminary Design [Phase 2] through Mission Operations and Data Analysis, Archival, and Dissemination [Phase 5] as defined in Section 3.2 of this AO."

Q46c: 3) Does this mean that the NASA ESE Cost (NMC and TMLCC) should include costs for Phases 2-5 only?

Q46d: 4) Is Phase 1 considered equivalent to the Step 2 Proposal?

A: **(46a): Yes.**
(46b): No, see answer 46d.
(46c): The ESE cost should include all mission phases.
(46d): No. Phases A-E are no longer valid. NPG 7120.5A defines project phases as formulation/implementation.

Step Two Kick-off Conference Questions

47) **AO Technical Requirements**

Q: What level of quality is required for the parts program?

A: **Level 1 and Level 2 parts, defined in GSFC 311-INST-001 (available at http://epims.gsfc.nasa.gov), are strongly recommended. Level 3 and commercial parts can be expected to cause problems. Appendix H, section 4.1 (page H-8) contains information on implementing a parts program for ESSP missions.**

48) **AO Technical Requirements**

Q: Should IV&V review software for science data analysis? How is the science algorithm impacted or required for IV&V?

A: **IV&V is not required for science data analysis software.**

49) **Launch Services**

Q: For Delta, who arranges for "sharing" arrangements?

A: **The proposer is repsonsible for selecting a viable launch opportunity that will be 'shared'. Contact Darrell Foster (321 476-3622) at the ELV office at KSC to investigate shared launch opportunities.**

There is also a website at GSFC (http://accesstospace.gsfc.nasa.gov/) that has some good information concerning instruments/spacecrafts looking for a ride.

50) **AO Cost Requirements**

Q: If independent cost models are run, would NASA like to see part of the submission in the cost section of the proposal?

A: **NASA is willing to look at any and all cost data that is submitted as part of a proposal, including independent parametric cost model results. We suggest including parametric model input data, as well as the results, to assist the cost reviewers in their work.**

51) **AO Cost Requirements**

Q: Do you include post-launch science analysis in the mission budget?

A: **The purpose of a mission is to answer science question(s) relevant to the ESE science goals. If the analysis effort is directed at answering the question(s), then this cost must be included in your mission costs (not to exceed mission cap).**

Questions since 11/29/01

52) **AO Technical Requirements**

Q: I have read page 3 and page K-7 of the AO regarding the Cover Page, and I have read the Question/Answers on the web regarding the Cover Page. Even with all this, there is still ambiguity.

Since you say submittal of Cover Page through SYS-EFUS is optional, then presumably we need only follow the rules on page K-7. The rules on page K-7 state that we only need PI and PI Authorizing Official info (e.g., full names and their signatures, addresses, zip, telephone, fax, and email).

Does a non-SYS-EFUS-entered Cover Page require anything else than what I just specified above? Please list any additional items needed, if any. Shouldn't we also put the proposal title onto the Cover Page, and perhaps the AO number?

A: **No. For a non SYS-EFUS entered cover page, the cover page can contain any information you want to put on it, but, at a minimum it must include the full names of the PI and Authorizing Official, their addresses with ZIP code, telephone and fax numbers, and electronic mail address.**

53) **AO Technical Requirements**

Q: In the sample Letter of Endorsement (LOE) provided on the ESSP Website, it shows that one should list out the contributed goods/services and their dollar values.

Then, after this, it says, "Our estimated total cost for this task is $XXXX, subject to final negotiations."

Is the "total cost" spoken of here just the sum of the listed CONTRIBUTED goods/services dollar values, or is it the amount of funding that the institution will RECEIVE from the mission?

A: **Letter of Endorsement (LOE) requirements are stated in Section 4.2.1 of the AO and Section E of Appendix K. From the LOE, NASA is looking for the total value of the endorsed goods/services. This applies not only to contributed goods/services but also goods/services provided through subcontract. If the participant/organization is providing both contributed goods/services and subcontracted goods/services, list them as separate items on the LOE. The total cost statement on the LOE is only for subcontracted goods/services. Do not include the value of the contributed goods/services in the total cost number.**

54) **AO Technical Requirements**

Q: In Appendix K, it says that the Step-Two proposal shall consist of two volumes.
Are these two volumes to be bound separately or together in the same binder?

(i.e., 35 or 70 binders needed for proposal).

If the copies are bound in separate volumes, how are they to be numbered? (Copy 1 vol. 1; Copy 1, vol 2; Copy 2 vol. 1, etc.....)?

A: **Each volume is to be bound separately (70 binders needed). The numbering scheme should be: Copy 1 Volume 1, Copy 1 Volume 2; Copy 2 Volume 1, Copy 2 Volume 2; etc.**

57) **AO Contributions**

Q: How is a modification done to the CONAE spacecraft when there is no exchange of funds?

A: **This issue is to be negotiated between the mission team and CONAE. For a Step-2 proposal, no draft Memorandum of Understanding (MOU) is required. This is contrary to the AO Appendix K, page K-36, item #7 requirement. After mission selection, NASA will work with your team to get an agreement in place.**

58) **AO Cost Requirements**

Q: If I can save launch costs by sharing the ride, can I use the savings toward mission costs?

A: **Yes. If your launch costs are under the ESSP-3 cap, then the difference between your launch costs and the launch cost cap can be applied to your mission.**

59) **Launch Services**

Q: We are having difficulties securing a firm quote from NASA for a Delta II LV. So far, all we've been able to retrieve is a range of cost estimates, which seem to be increasing every time we call. Can NASA provide a firm Delta II cost estimate that is reasonable and justified?

What should we assume as the Launch Vehicle Services cost if a Delta II launch vehicle is specified in our proposal?

A: **A Delta is not one of the three ELV launch vehicles listed in the AO. If a PI chooses to select another NASA certified ELV launch vehicle, it is the PI's responsibility to contact Darrell Foster at 321-476-3622 to obtain all of the available cost information that must be included in the proposal. As indicated in the AO the Office of Earth Science will only provide up to $50 M for the launch vehicle and the associated launch services. Any amount over the $50 M will be charged against the $125 M cost.**

60) **AO Cost Requirements**

Q: A. Who staffs the red teams, the project or NASA?
B. Who pays for the red teams, the project or NASA?
C. 1) If the project pays for the red team, are we responsible to cost both non-NASA and NASA review board members? 2) If so, what are the expected staffing levels and pay grades for board members?
D. If the project pays for the red team, does it count against the cost cap?

A: **A) Red teams will no longer be used. In their place NASA will assemble an Independent Integrated Review Team (IIRT) that will preside over all major system level reviews.**
B) NASA will be responsible for funding IIRT panel members.
C1) See answer for B).
C2) See answers for A) and B).
D) NASA will fund IIRT panels, but your costs incurred in supporting IIRT reviews will be part of your mission cost.

61) **AO Technical Requirements**

Q: In Appendix K, Section L, item #9: "Contractual Requirements", we have to provide accepted contract terms, conditions, and deliverable lists for each mission participant that will enter into a contract. There are 2 sample generic contracts in the ESSP Project Library, one for educational institutions and one for commercial institutions. However, some of our participants are government institutions ... what sample contract would they follow? .... or should Appendix L (#9) NOT include the government participants?

A: **The contract referenced in Appendix K, Section L, item #9 (page K-37) is between NASA and the selected mission. This requirement does not apply to contracts the mission has with its suppliers or participants.**

62) **AO Technical Requirements**

Q: Appendix K, Section L, Item #8 (Page K-37), (NASA Principal Investigator Proposing Teams), says:

"The proposal shall (i) indicate that the supplies or services of the proposed non-Government participant(s) are available under an existing NASA contract;"

Here's the rest of that sentence: "(ii) make it clear that the capabilities, products, or services of these participant(s) are sufficiently unique to justify a sole source acquisition; or (iii) describe the open process that was used for selecting proposed team members.

What does this mean? (This makes it sound like every non-Government participant we have must be under some existing NASA contract ... that doesn't seem correct ... why must that be? Seems we should be able to obtain non-Government participants that are not under existing NASA contracts.)

A: **The three items in this statement are designed to show how your non-Government participants were selected. You only have to show that one of the three items (i or ii or iii) was used in selecting each non-Government participant.**

Item (i) does not mean to imply that non-Government participants have to be under NASA contract before selection, it means that your Center may already have a contract in-place, with contractors available to provide supplies or services in support of your mission. As an example, your mission would initiate a sub-task to an existing contract that would allow the contractor to submit a quote containing cost and schedule information. This quote would serve as an 'endorsement' that the contractor could provide the supplies or services for a fixed amount as shown in your proposal. If your mission were selected, then the sub-task would be executed.

63) **Miscellaneous**

Q: We usually have someone fly up and hand carry the proposal so that we know it makes it to the correct place. Due to the bulky 70 binders and added airplane security, this is impractical this time. We now plan on overnighting the proposal sometime between Jan. 29-31. In the off chance that it doesn't get there by Feb. 4, can we resend it or are we disqualified?

A: **The six selected Step-Two proposal PI's will be notified that the Step-Two proposals arrived or did not arrive on time by February 7, 2002. If a Step-Two proposal does not arrive, the PI will be required to start an immediate search for the proposals and submit documentation that proves that it was beyond the PI's control that the proposals did not arrive. All shipping and delivery dates as well as contents must be fully documented. If necessary, the ESSP Executive Committee Chair will make the final decision on whether or not to accept a proposal that was delivered late.**

64) **AO Cost Requirements**

Q: A) Are there any costs to NASA associated for launch services or users fees for utilizing the STS and ISS that we can include in our proposal?

B) If not could you provide documentation that the cost estimates are not required for the proposal?

A: **The ISS document in the ESSP library (Launch Services/ISS Research Opportunities) has a table, at the end of Section 10, spelling out the standard services at KSC. There are no integration costs to the payloads for integration of the experiment to the carrier or pallet. The payload cost is only the payload developer's support of the integration and launch process, non-standard services required by the payload, and any payload testing at KSC desired by the developer prior to handover of the payload to KSC.**

Also see Question/Answer #20 for additional information.

65) **Miscellaneous**

Q: On page K-2 of the appendix K, it states, "Except for the original, two-sided copies are preferred." Does this mean the original should be one-sided, or can it be two-sided also (except for the letters of endorsement, etc.).

Just wondering because a one-sided original would require a larger binder than for the other copies.

A: The original signed copy of your proposal should be one-sided, as stated in the AO.

66) **AO Technical Requirements**

Q: In Appendix K, Section M, paragraph {c}(NASA Launch Services Cost) it references a Table K-10 ... we can't find Table K-10 ... does AO really mean Table K-9?

A: There are two typographical errors in the referenced sentence of this paragraph. One corrects the K-10 reference, the other adds figure L-6 along with L-7 and L-8. It should read:

c. NASA Launch Services Cost

Launch services are discussed in section 3.1.4 of the AO. Launch services cost is defined as that portion of the proposed Total Mission Life Cycle Cost to be funded by NASA for the acquisition of a launch vehicle and the services necessary for launch. Elements of this cost include the launch vehicle itself, including any upper stages, payload fairings, propellants, and labor and materials needed for launching. Launch Services cost is not part of the NASA Earth Science Enterprise Cost ceiling of $125 million discussed elsewhere in these instructions. Proposers must still include the estimated cost of launch services in the cost tables ***K-9***, above, and Figures ***L-6***, L-7 and L-8 below for completeness. Elements that are to be included in payload integration costs and are not part of launch services include payload adaptors, cabling and connectors to connect the payload to the launch vehicle, and labor, equipment, and materials necessary for health monitoring and maintenance of the payload prior to launch.

Questions since 1/10/02

67) **AO Cost Requirements**

Q: Your response in question 58 stated, "If your launch costs are under the ESSP-3 cap, then the difference between your launch costs and the launch cost cap can be applied to your mission."

1) A funding schedule was presented at the kickoff meeting showing the maximum funds available each year for the ESSP missions (excluding launch vehicle). Our launch costs are under the ESSP launch vehicle cost cap. How should we apply the difference between our launch costs and the launch cost cap to the NASA funding schedule on an annual basis?

2) The cost profile for the Taurus in the AO Appendix C available in the ESSP library is presented as "draft." Furthermore, it is based on an assumed launch date of October 2005. What is the non-draft cost profile to be used by proposers, based on an October 2006 launch (36 months from ESSP-5 MCR)?

A: **Below is the funding table presented at the Step-Two Kickoff Conference with ELV costs added in:**

Year	ESSP-5	L/V-5	Maximum
FY02	$0.2M		$0.2M
FY03	$18M		$18M
FY04	$33M	$13.1M	$46.1M
FY05	$37M	$14.4M	$51.4M
FY06	$27M	$22.5M	$49.5M
FY07	$6M		$6M
FY08	$4M		$4M

All numbers represent maximum amounts in each category for the year they are listed.

1) If your launch costs are less than the 'cap' of $50M, you can spread the difference among FY04/FY05/FY06 in any manner as long as you don't exceed the number in the Maximum column for that particular year (i.e. $51.4M in FY05).

2) Use this table for the ELV cost profile and disregard the numbers in Appendix C, from the ESSP library.

68) **Proposal Content and Page Limits**

Q: Has the requirement to provide 35 copies of Step-Two proposal changed?

A: **Yes, due to the large number of proposal evaluators, your team must provide 55 (fifty-five) copies of your proposal to NASA.**

69) **AO Cost Requirements**

Q: What is the preferred way of showing excess ELV funds, that are to be applied to Mission costs, on the Investigation Summary Form II (section B)? There, you request the "NASA ESE Cost" (defined as the total cost excluding the launch vehicle) and the "NASA Mission Cost", which includes the launch vehicle. Clearly, the second value cannot exceed 175M, but do we show the first value a $125M, or $125M + launch vehicle savings?
I'm worried that if we adopt the second approach, the proposal may be sent back as non-compliant with the AO (which states that the NASA ESE cost ceiling is $125M).

A: The first assumption is correct. Even if you are planning on applying excess ELV costs to your mission, list the NASA ESE cost as $125M on the Investigation Summary Form II. The NASA Mission Cost is still $175M. The Total Mission Life Cycle Cost, in this case, is $175M plus contributions (if there are any to be applied).

To show that you intend to use excess ELV funds, clearly indicate in the proposal text that your mission intends on using leftover ELV funds and that you will be applying the leftover funds to mission reserves or other areas. This will help demonstrate that your mission complies with ESSP AO requirements.