

## NF CSR Guidelines Q&As

Updated March 8, 2010 (Questions 1-4)  
Updated June 19, 2010 (Questions 5-11)  
Updated July 8, 2010 (Questions 12-14)  
Updated August 20, 2010 (Question 15)  
Updated October 12, 2010 (Question 1,7-8 revised; Question 16)  
Updated October 22, 2010 (Question 17)  
Updated November 8, 2010 (Question 18-25)  
Updated November 29, 2010 (Question 26-28)  
Updated November 30, 2010 (Question 29)  
Updated December 8, 2010 (Question 30)  
Updated December 10, 2010 (Question 30A-33)  
Updated December 15, 2010 (Question 34)  
Updated December 20, 2010 (Question 35)  
Updated December 30, 2010 (Questions 36-39)  
Updated January 17, 2011 (Question 40-41)

Point of Contact: Paul Hertz, Interim New Frontiers Program Scientist, [paul.hertz@nasa.gov](mailto:paul.hertz@nasa.gov)

**Question 1:** Requirement CS-6 states, "...The CDs shall also contain an electronic versions of the schedule." In what format is the electronic versions of the schedule required: PDF, MS Project, or something else?

Answer: The TMC prefers these in MS Project, so they can manipulate and interrogate the linked and loaded schedule.

Revised on October 12: New Requirement CS-6A states that MS Project format is required and also specifies the minimum requirement for schedule details.

**Requirement CS-6A.** The CDs shall also contain an electronic version of the schedule in a Microsoft Project format. The tasks in the schedule must follow the standard WBS defined in NPR 7120.5D NID. The detail on the schedule must go to at least level 3 for the spacecraft (one level below the spacecraft level) and level 4 for the payload (one level below each instrument). For WBS elements in which risks have been identified, the schedule must be detailed down to the level of the WBS element associated with the risk. Resources must be assigned to tasks at the lowest level. The CD must also contain the trajectory information defined in Requirement CS-26A.

**Question 2:** Requirement CS-13 states, "This section shall describe the science investigation as specified by Requirements B-15 through B-18 in Appendix B of the AO. If there are no changes from the Step 1 proposal, this section shall be reproduced identically from the Step 1 proposal, with a statement that

there have been no changes.” Do we put this statement at the beginning on a separate page, or at the end, or somewhere else?

Answer: There is no specific requirement, but it would be a good idea to insert it before the first page of the science investigation section, so the reviewers see it immediately. The statement will not count against the page limit.

**Question 3:** Requirement CS-14 states, “Any descoping of, or changes to, the Baseline and Threshold Science Missions defined in the Step 1 proposal shall be identified and the rationale for the change(s) provided. Such changes to the science mission shall be highlighted in bold or a color with column marking for easy identification. In addition, a change matrix showing the original (proposed) science objective(s), any new or revised science objective(s), rationale for the change(s), and its (their) location(s) within the CSR is required as an appendix (see Section M.17). Corrections (e.g. typos and errors) and nominal updates (e.g. revised references, clarified sentences) to this section, that do not constitute a change to the proposed science mission (i.e. no change to science mission objectives, requirements, implementation details, measurements and data, etc.) are not required to be individually identified and tracked; however, a summary of such changes shall be provided.” How are the Step 1 minor weakness related to Science Merit to be addressed in those cases where their related nominal update does not change any of the science objectives? What is the format and location within the CSR of the summary of these updates along with minor corrections (e.g typos and errors)?

Answer: Nominal updates beyond “corrections” are changes to this section of the Step 1 proposal and must be highlighted and included in the change matrix. This is so NASA can determine whether these changes constitute a significant change to the science objectives, which would trigger a peer review to re-evaluate the scientific merit. There are no specific requirements for the format and location of the summary, as long as it is legible and easy to find. The change matrix and/or summary will not count against the page limit.

**Question 4:** Requirement CS-38 states, “A project schedule foldout covering all phases of the investigation shall be provided. This foldout will not be counted against the page limits...” Foldout is singular here, though it is plural on the page limit guidelines. Are we allowed unlimited foldouts, similar to Step 1?

Answer: You are allowed unlimited schedule foldouts.

**Question 5:** Will missions receive new categorizations based on the Concept Study Reports?

Answer: No. Categorization is a process that takes place only during the Step 1 evaluation and selection of proposals submitted in response to the AO (AO Section 7). Unless there are significant changes to the science objectives, the science merit of the mission concept will not be reevaluated (CSR Guidelines, Part I, page 3). Even if the science merit is reevaluated, the mission concepts will not be categorized as part of the Step 2 downselect process.

**Question 6:** How do we get necessary information on the performance and characteristics of the launch vehicles so that we can show compatibility with the proposed performance level launch vehicle as described in Requirement CS-27?

Answer: The point of contact for launch vehicle information is Rex Engelhardt of NASA's Launch Service Program (LSP), [rex.a.engelhardt@nasa.gov](mailto:rex.a.engelhardt@nasa.gov), 321-867-5150. To the best of their ability within the existing contractual constraints, LSP will

- Answer any questions that each Phase A Study Team asks about LVs so that the Team can complete its Phase A study.
- Ensure that the three teams all get compatible and consistent information.
- Post in the FAQs any policy questions that each team asks but not post technical questions.

**Question 7:** ULA's advertised capabilities for their launch vehicles has changed since the New Frontiers AO was released. What should we do?

Answer: ULA recently published a new planner's guide with updated performance numbers. The performance numbers were different than what LSP has been using in NLS1. LSP has engaged ULA and are pursuing this. In the mean time, what it could mean for the Phase A Study Teams is that the response from ULA could be for a vehicle different than what the teams have been planning for. If ULA assesses a mission's requirements using their newer performance curves, they could respond with data from a larger rocket. LSP will have to wait and see and then sort out how to deal with it later.

Revised on October 12: The NASA Launch Services 2 (NLS-2) launch services contract has been awarded and new performance parameters will be available shortly. There will be no changes to the New Frontiers Phase A study ground rules or evaluation criteria due to the new launch services contract. New Frontiers Phase A study teams are to continue to use the NLS-1 launch vehicle performance parameters. The cost cap guidelines described in section 5.9.2 of the New Frontiers AO are unchanged. The only change is the New Frontiers Phase A study teams are asked to include a paragraph summarizing the impact of the NLS-2 contract assuming the same performance as required by their Phase A study. The following new requirement is added to the CSR Guidelines.

**Requirement CS-27A.** This section shall include a short (one paragraph is suggested) summary of the impact of the NLS-2 contract assuming the same performance as required by their Phase A study.

New Frontiers Phase A study teams should continue to work with Rex Engelhardt, (321) 867-5150, [rex.a.engelhardt@nasa.gov](mailto:rex.a.engelhardt@nasa.gov), for Launch Services Program support with assessing NLS-2 impacts.

**Question 8:** How does it affect our cost cap if ULA's change in performance numbers means that we need a larger launch vehicle than the one we proposed?

Answer: The cost cap is set by the performance range of the launch vehicle that you require, not by the actual launch vehicle. As long as your requirements stay in the same performance range (as defined by Table 1 in the document "ELV Launch Services Program Information Summary (September 26, 2008)" in the New Frontiers Program Library), then your cost cap stays the same.

Revised on October 12: There will be no changes to the New Frontiers Phase A study ground rules or evaluation criteria due to the new launch services contract. New Frontiers Phase A study teams are to continue to use the NLS-1 launch vehicle performance parameters. The cost cap guidelines described in section 5.9.2 of the New Frontiers AO are unchanged.

**Question 9:** The AO says on page 41, Requirement 79, "Proposals shall propose a launch readiness date within a window beginning in late CY 2016..." The term "late CY 2016" is a bit vague. Could a mission propose to launch in August 2016, as long as it is within the total NASA cost cap?

Answer: Yes. However NASA cannot guarantee that the proposed funding profile can be accommodated within the New Frontiers Program's budget. A funding profile for the selected mission will be negotiated during Phase B.

**Question 10:** Are we permitted to use Aerospace for analysis services?

Answer: Yes with an explanation. NASA intends to use Aerospace Corporation for evaluation services during the evaluation of New Frontiers CSRs. Therefore Aerospace has an organizational conflict of interest and cannot be a part of any CSR team or be proposed as the recipient of any future work. However you may use Aerospace for analysis services subject to specific conditions. These conditions are the same conditions that are spelled out in the New Frontiers AO, Section 4.2.1. In summary, the rules for using Aerospace are the same in this Step 2 as they were in Step 1.

**Question 11:** Are Concept Study Reports required to be compliant with SPD-18 on mission E/PO management? Are there any other updates to the E/PO requirements?

Answer: Yes. The E/PO plans, including management, schedule, and funding profile, shall be compliant with SMD Policy Document SPD-18 "Policy and Requirements for the E/PO Programs of SMD Missions." This requirement supplements Requirements CS-47 and CS-51.

In addition, the E/PO plan shall budget for E/PO lead participation in annual NASA SMD Planetary Science Education and Public Outreach Forum (SEPOF) E/PO meetings. Information about the Planetary SEPOF may be found at <http://science.nasa.gov/researchers/education-public-outreach/science-education-and-public-outreach-forums/>. This requirement supplements Requirements CS-47 and CS-51.

The current version of the Explanatory Guide to SMD E/PO Evaluation Factors for missions, is Version 3. It is at [http://science.nasa.gov/media/medialibrary/2010/03/31/SMD\\_EPO\\_Guide3\\_April08.pdf](http://science.nasa.gov/media/medialibrary/2010/03/31/SMD_EPO_Guide3_April08.pdf). The version in the program library is not current.

**Question 12:** How would we request a waiver for our E/PO program from the 35/65 split? (SPD-18, Section 2.2(c), “No more than 35% of E/PO funding (through prime mission) may be allocated before launch; at least 65% of the budget must be allocated for Phase E. Exceptions require approval by the SMD Science Division Director and SMD Lead for E/PO.”)

Answer: You should include the waiver request in your CSR. As part of the evaluation of your E/PO plan during downselect, NASA will consider your waiver request for approval.

**Question 13:** Neither the AO nor the CSR Guidelines mention media relations and/or public affairs. Are we required to budget for any media relations and/or public affairs functions within the PI-managed cost cap? Can media relations and/or public affairs count toward the E/PO core requirement?

Answer: (a) All NASA missions are required to conduct an appropriate program of media relations and/or public affairs. Media relations and/or public affairs must be conducted in partnership with a NASA Center. The mission must budget for an appropriate media relations and/or public affairs program in accordance with the practices of the NASA Center. (b) Media relations and/or public affairs is not a subset of E/PO. E/PO funds may not be used for media relations and/or public affairs.

The following text has been added to the Standard AO Template and is a part of AOs beginning with the Discovery AO. It is hereby incorporated into the New Frontiers Guidelines for Concept Study Reports:

Successful media relations activities require close cooperation between NASA and the selected investigations. NASA Centers and JPL have specific expertise in media relations and/or public affairs, especially as they pertain to Earth and space science missions. All selected investigations will coordinate media relations and/or public affairs with a NASA Center or JPL.

NASA is to be informed in a timely manner of any newsworthy mission event or issue before public release of information. Strategies for using new and social media also will be developed collaboratively to ensure common and consistent messaging will occur in a timely manner. NASA and the selected investigation will establish and maintain a detailed coordination media relations plan and communications process.

Selected investigations also must work with NASA to ensure their mission website follows NASA requirements for incorporating content for the agency's primary public website at <http://www.nasa.gov/>. NASA, and through NASA the selected investigation, is required under the Information Quality Act and associated guidelines to maximize the quality, objectivity, utility, and integrity of information and services provided to the public.

**Question 14:** How does the PI-cost commitment in the Phase A Concept Study Report related to the 70% confidence cost commitment that NASA makes at Confirmation (KDP-C)?

Answer: SMD has established a policy document that answers this question. Please see SPD-19, Meeting the 70% JCL Requirement in PI-led Missions (available in the Program Library).

**Question 15:** Where are the costs for the Standing Review Board covered? Are these costs covered by the New Frontiers Program Office or by the individual projects and to be shown in table B3?

Answer: The costs of the SRB itself are included in the budget of the New Frontiers Program Office. The project estimate does not need to include the cost of the SRB itself, but it must include the cost of (i) the effort necessary by the project to support the work of the SRB (e.g., the project's costs for supporting SRB reviews) and (ii) any project or institutional internal reviews (e.g., peer reviews, institutional independent review teams).

**Question 16:** What is the complete text of the message that was sent to all Study Teams on October 12?

To the New Frontiers Study Teams

From Paul Hertz, New Frontiers Downselect Program Scientist

October 12, 2010

Summary: This communication updates the New Frontiers management team in SMD and the mailing address for submission of CSRs, makes 2 requests for near term response (including preferences for site visits), and adds 6 new requirements to the CSR Guidelines.

Note: The *Guidelines and Criteria for the Phase A Concept Study* document located in Section X of the Program Library at <http://newfrontiers.larc.nasa.gov/> has been updated to incorporate the new information in this note. This note has also been incorporated *verbatim* into the *New Frontiers Phase A Guidelines Q&As* located at <http://newfrontiers.larc.nasa.gov/>.

## **1. New New Frontiers Program Scientist**

Jeff Grossman has joined the Planetary Science Division in SMD, and he is the new New Frontiers Lead Program Scientist. Paul Hertz will continue in the role of New Frontiers Downselect Program Scientist during this transition period. Together Jeff and Paul will manage the New Frontiers downselect process for NASA Headquarters. All correspondence concerning the New Frontiers downselect process should continue to be addressed to Paul Hertz.

## **2. New mailing address for Concept Study Reports**

The NASA contract for NASA Research and Education Support Services (NRESS) has been recompeted. The new contractor has a new address.

New Frontiers AO 2009  
Science Mission Directorate  
NASA Research and Education Support Services (NRESS)  
Suite 500  
2345 Crystal Drive  
Arlington, VA 22202

Phone for commercial delivery: 202-479-9030

### **3. Impact on New Frontiers Phase A study teams of the NLS-2 contract**

The NASA Launch Services 2 (NLS-2) launch services contract has been awarded and new performance parameters will be available shortly.

There will be no changes to the New Frontiers Phase A study ground rules or evaluation criteria due to the new launch services contract. New Frontiers Phase A study teams are to continue to use the NLS-1 launch vehicle performance parameters. The cost cap guidelines described in section 5.9.2 of the New Frontiers AO are unchanged.

The only change is the New Frontiers Phase A study teams are asked to include a paragraph summarizing the impact of the NLS-2 contract assuming the same performance as required by their Phase A study. The following new requirement is added to the CSR Guidelines.

**Requirement CS-27A.** The CSR shall include a short summary of the impact of the NLS-2 contract assuming the same performance as required by their Phase A study. The information provided to respond to this requirement must be placed in a new appendix labeled Appendix M.22.

New Frontiers Phase A study teams should continue to work with Rex Engelhardt, (321) 867-5150, [rex.a.engelhardt@nasa.gov](mailto:rex.a.engelhardt@nasa.gov), for Launch Services Program support with assessing NLS-2 impacts.

### **4. Additional requirements in support of the evaluation of cost and schedule risk**

There has been increased attention to cost and schedule growth for NASA missions. This includes the recent NRC report, *Controlling Cost Growth of NASA Earth and Space Science Missions* (NRC 2010). When it is approved and implemented (which is highly likely to be before the New Frontiers downselect is completed), NPR 7120.5E will place additional emphasis on cost and schedule control on whichever New Frontiers mission is downselected and continued into Phase B.

In this context, lessons learned from prior evaluations of Concept Study Reports have led us to add the following two new requirements to the CSR Guidelines.

**Requirement CS-6A.** The CDs shall also contain an electronic version of the schedule in a Microsoft Project format. The tasks in the schedule must follow the standard WBS defined in NPR 7120.5D NID. The detail on the schedule must go to at least level 3 for the spacecraft (one level below the spacecraft level) and level 4 for the payload (one level below each instrument). For WBS elements in which risks have been identified, the schedule must be detailed down to the level of the WBS element associated with the risk. Resources must be assigned to tasks at the lowest level. The CD must also contain the trajectory information defined in Requirement CS-26A.

**Requirement CS-44A.** The significant mission risks, including development risks, must be identified in a 5 by 5 matrix of likelihood versus consequence. For all identified risks, discuss the likelihood (in % probability), consequence (quantified in dollars, schedule, mass, etc.), mitigations, the associated WBS number(s), and the project phase in which issues may arise. At a minimum, the top 5 development risks and the top 5 operations risk must be identified. The information provided to respond to this requirement must be placed in a new appendix labeled Appendix M.21.

## **5. Additional Mission Design information in support of the evaluation of trajectories**

The additional information that was requested from Discovery AO proposers in a late amendment is also necessary for the evaluation of the New Frontiers concept study reports. The following new requirement is added to the CSR Guidelines.

**Requirement CS-26A.** Additionally, the following information shall be provided on the CD containing the electronic version of the proposal.

- **Checkout Duration:** The minimum duration allocated after launch before the primary propulsion system will be commanded to provide required  $\Delta V$ .
- **Initial Mass Assumptions:** Provide the initial mass used for generation of the trajectories including propellant loading assumptions.
- **Event Basics:** Provide the date/time of each trajectory event with a brief event description (e.g., Launch, Gravity Assist, Fly-by, Rendezvous, Mid-Course Burn) and the appropriate data for the event (e.g., flyby altitude, flyby angle, flyby/intercept velocity, delta-v magnitude). These data should be included for three different scenarios corresponding to the Open, Middle, and Closing time of the proposed launch window.
- **Event Body Ephemeris:** Provide ephemeris data for all event bodies (fly-by planet, asteroid fly-by, comet rendezvous, etc.). Include the source of the ephemeris data and the epoch for the actual ephemeris point used for a particular event.

Any other trajectory specific information not called out above that would be relevant to reviewers attempting to validate the trajectory should also be included.

## **6. Additional information needed to ensure a conflict free evaluation**



NASA is committed to avoiding conflicts of interest in the evaluation of New Frontiers concept study reports. (1) In order to avoid organizational conflicts as we assemble the evaluation team, we need to know any changes in the partners or participants since your AO proposals. (2) In order to avoid all conflicts as we conduct the evaluation, we will need to know all of the people who worked on your concept study report even if they are not members of your study team.

**Request 1.** Provide a list of any new organizations who have either participated in your concept study or whom you are proposing to provide work should your mission be downselected. We have the list of organizations that are mentioned in your Step 1 proposal. Provide this list as a PDF document to Paul Hertz by email (paul.hertz@nasa.gov) no later than November 1, 2010.

**Requirement CS-6B.** Include on the CD a list of people that worked on the proposal whose names are not already mentioned in the proposal. For instance, the list should include any proposal writer, Red Team member, reviewer, etc.

## **7. Aiding the evaluators in finding required information in the concept study report**

Lessons learned from prior evaluations of Concept Study Reports have led us to request a table with all of the requirements (CS-1 through CS-98) and the page number in the CSR where the requirement is addressed.

**Requirement CS-6C.** Create a separate document that contains a table with all of the requirements (CS-1 through CS-98) and the page, section, or table number that is the main place in the CSR where the requirement is addressed. Provide this table as a PDF document to Paul Hertz by email no later than January 30, 2011.

## **8. Setting the schedule for site visits**

NASA has begun putting in place the evaluation plan, team, and schedule for the evaluation of your concept study reports. It is time to set the site visit travel schedule. The possible dates for site visits are: April 14, 19, 21, 26, or 28. In constructing the site visit schedule, NASA has the following preferences: (i) Conduct the 3 site visits during 2 consecutive weeks; (ii) Minimize the number of coast-to-coast trips; and (iii) Complete the site visits (and the evaluation) as soon as practical.

**Request 2.** (a) Identify the location of your 1-day site visit. (b) Identify which of the five dates absolutely cannot be supported by your team for a site visit and provide a compelling rationale. (c) Prioritize the remaining dates in order of preference (most preferred to least preferred); where there is no preference, declare a tie so that we know you have no preference. Provide the response in an email to Paul Hertz no later than October 20, 2010.

## **9. Reminder about structure of Program Library**

The New Frontiers Program Library is still located at <http://newfrontiers.larc.nasa.gov/NFPL.html#s10>. The documents referenced in the AO and the CSR Guidelines are located in Section X of this Library. Earlier versions of some of these documents may be found elsewhere in the Library. Only the versions in Section X are applicable to the Phase A concept study.

#### **End of Question 16**

**Question 17:** The AO says that “scientific implementation merit and feasibility of the proposed investigation” (Criterion B) will be scored on an E-VG-G-F-P scale. However it was announced at the Kickoff Meeting on January 12 that Criterion B would be scored on a Low-Medium-High Risk scale. Which is it?

Answer: Criterion B will be scored on an E-VG-G-F-P scale for the downselect, just as it was for Step 1.

**Question 18:** What is the site visit schedule?

Answer: Thank you for working with me and being as flexible as possible on site visits. As we all know, these site visit schedules were highly constrained by the activities for several missions in development (Juno, MAVEN, GRAIL) as well as the Easter and Passover holidays.

Based on the information provided to me, the following site visit schedule has been deemed acceptable by everyone. It is not optimal but it does avoid the Passover holiday; without this accommodation I would have lost key members of my evaluation team. This does require us to split up the two JPL visits, which also adds additional travel for the evaluation team. But we will not be delaying the final downselection decision.

#### **NEW FRONTIERS SITE VISIT SCHEDULE**

Tue April 12 SAGE site visit at JPL Pasadena CA

Thu April 14 OSIRIS-Rex site visit at Lockheed Martin Littleton CO

Thu April 21 MoonRise site visit at JPL Pasadena CA

Instructions for the site visits will be sent out early next year. However they are likely to be extremely similar to previous site visits.

**Question 19:** Are we really supposed to list every person that worked on the Concept Study report in response to Requirement CS-6B: Include on the CD a list of people that worked on the proposal whose names are not already mentioned in the proposal. For instance, the list should include any proposal writer, Red Team member, reviewer, etc.?

Answer: This request and requirement do not include either organizations who are listed as team members on the Step 1 proposal cover page nor does it include people who work at those organizations.

This request and requirement is only for the identification of new organizations and the identification of people from organizations that are not listed on the Step 1 proposal cover page. The purpose of this request, as originally stated, is to avoid placing people on our evaluation team who have unrecognized conflicts of interest. We already know that everybody at the proposing institutions has a conflict of interest, and we do not need a list of the people at the proposing institutions who worked on the concept study. We are looking for organizations and individuals who are unknown to us, for instance independent consultants or consulting organizations who helped you with the concept study or academic colleagues who red teamed your concept study report.

Repeat: We do not need a list of the people at the proposing institutions who worked on the concept study. I apologize for any unnecessary work that may have been initiated because of the lack of clarity in my request.

**Question 20:** Having read over the latest updates to the NF CSR guidelines (10/12/2010 email), we believe that Requirement CS-6A contains wording that exceeds generally accepted requirements for Phase A efforts (consistent with guidance provided in NPD 1000.5, Policy for NASA Acquisition). The specific wording is “Resources must be assigned to tasks at the lowest level.” Resource loading of the schedule is an activity that occurs in Phase B as part of setting the schedule baseline and setting up the EVM (Earned Value Management) system in preparation for the IBR (Integrated Baseline Review) and CR (Confirmation Review).

Answer: The sentence “Resources must be assigned to tasks at the lowest level.” does not apply to all possible tasks but only to the tasks required to be identified in the schedule which are stated in the two previous sentences:

“The detail on the schedule must go to at least level 3 for the spacecraft (one level below the spacecraft level) and level 4 for the payload (one level below each instrument). For WBS elements in which risks have been identified, the schedule must be detailed down to the level of the WBS element associated with the risk.”

The unstated implication is that the detail on the schedule only needs to go to at least level 2 for all other WBS elements (unless risks are identified in Requirement CS-44A). This is the minimum set of information NASA requires to support the selection decision.

However there may be situations where the concept study team does not have access to the data necessary to fully comply with this requirement. In those cases (as with all requirements), best effort is expected along with an explanation of the circumstances that prevent full compliance. For instance:

- Contributed flight hardware, whether science payload or flight system elements. International partners might not provide the necessary information to the US concept study team. However contributed hardware costs help us to size the management and systems engineering effort involved for the host mission. A "best guess" is acceptable. Another option is to fully describe the contributed item with mass and power requirements.

- Fixed price payload elements or flight system elements. Fixed price elements may be treated as a "purchased part" and the "vendor quote" is sufficient cost detail.
- Flight system elements from other NASA centers, which are traditionally not shared between Centers. Under these circumstances, the contributing NASA Center should submit the required resource data under separate cover directly to the New Frontiers Downselect Program Scientist. The data will be used for evaluation purposes but will be protected as all competition sensitive data is protected.

**Question 21:** "Resources must be assigned" still comes across as requiring a resource loaded schedule (Phase B activity). What is typically done in Phase A is to provide the level of schedule detail you've asked for in the draft language and cost information (provided separately) that goes down to the same WBS level. Are you asking for a resource loaded schedule?

Answer: Requirement CS-6A asks for a schedule; it also says resources must be assigned to each task. That's basically the definition of a resource-loaded schedule. But I will interpret your question as being about format, not about content. (a) Yes, we are asking for resources to be loaded on the Microsoft schedule program as we specified – which means only to the level requested (see Answer 20). In order to best reflect the CSR teams' proposals, it would be best to have the CSR teams provide the resource loaded schedule. (b) However, if this cannot be provided, an alternative is for the CSR teams to provide a table or spreadsheet of the resources (labor \$, subcontract \$, material \$) as a function of WBS element, and this can be used by NASA to construct a resource loaded schedule.

**Question 22:** Requirement CS-6A states: "Resources must be assigned to tasks at the lowest level." As stated and implied, it would be difficult to fully comply for the following reasons. The detailed planning data created and available in Phase A only extend for the Phase B activity. Phases C/D/E/F are estimated at a higher level commensurate with the project design maturity, and the fact that project teams are not fully funded or staffed in Phase A to create the detailed planning data for Phases C/D/E/F. One of the chief products of Phase B as per SPD-19 is the detailed information for phases C/D/E/F that is implied by revised requirement CS-6A. Moreover, where there are contributed instruments and components, work at other NASA centers, or procurements that will be subcontracted via fixed price, the level of detail required by CS-6A will not be available. Our question is this: Is it your intent to limit the CS-6A requirement to Phase B?

Answer: No

**Question 23:** Requirement CS-6A also states: "For WBS elements in which risks have been identified, the schedule must be detailed down to the level of the WBS element associated with the risk." Are we correct in reading this requirement to pertain to Requirement CS-44A, which asks for the top five (5) development risks and top five (5) operations risks?

Answer: Yes, except that Requirement CS-44A asks for “The significant mission risks ... At a minimum, the top 5 development risks and the top 5 operations risks.” You are not limited to the top 5 development risks and the top 5 operations risks.

**Question 24:** Please clarify Requirement CS-44A. (a) For “all identified risks,” do you mean the significant mission risks identified in the 5 by 5 matrix of likelihood versus consequence? (b) For “significant mission risks,” do you mean just the top 10 like NASA projects report to management, or just the top 5 development and top 5 operations that you mention in Requirement CS-44A? (c) For “likelihood (in % probability),” can we just provide a range? A specific number is inconsistent with the level of concept maturity at this time. (d) By "development" do you mean risks that we believe exist in phases B/C/D? (e) By "operations" do you mean risks that we believe exist in phases E/F? (f) What if we don't have at least 5 significant mission risks in one of development or operations?

Answer: (a) Yes, we are asking you to discuss the likelihood, consequence, mitigations, associated WBS number(s), and project phase in which issues may arise for the significant mission risks that are identified in the 5 by 5 matrix of likelihood versus consequence. (b) No, we would like you to identify the significant mission risks (with a minimum of 5 in development and 5 in operations). The evaluation panel will also identify risks as they review your proposal; for risks that are not quantified in Appendix M.21, the evaluation panel will estimate the quantification and NASA may ask you questions about this as part of the questions sent prior to the site visit. However you are the expert on your mission concept, and we are sure that you are much better than we are at identifying and quantifying significant mission risks. (c) Yes, at a minimum, the quantification of probability can be the range of probabilities that define the location of the significant mission risk in the 5 by 5 matrix of likelihood versus consequence. Where a more precise estimate is available, you should report that. (d) Yes. (e) Yes. (f) Try and convince us.

**Question 25:** The CSR guidelines for Appendix 7 say that there is a sample International Agreement in the NF Program Library; however no one here can find one if there is. Can you refer us to where it is located?

Answer: As of November 8, 2010, the Juno Interim Agreement has been posted in the New Frontiers Program Library. Note that the CSR Guidelines, Requirement CS-87, only call for draft language for the technical content of any International Agreement(s) to be included in the concept study report. In the Juno Interim Agreement, this technical content is found in the sections titled "Responsibilities." The rest of the agreement is boilerplate, the boilerplate language has changed since the 2008 signing of the Juno Interim Agreement, and there is no value or requirement for the New Frontiers concept study teams to submit draft boilerplate content with their concept study reports.

**Question 26a:** Why are you asking for additional information in Requirements CS-6A and CS-44A? Isn't it too early to conduct a Joint Confidence Limit (JCL) cost and schedule analysis?

Answer: NASA Associate Administrator Chris Scolese asked SMD to follow the proposed NPR 7120.5E language and develop a **cost range, with probabilities (not a JCL)**, in support of the KDP-B downselect

decision for AO missions. The direction is that this information should be used in support of the KDP-B downselection decision so it cannot be developed by the project after downselection and during Phase B.

The project will be held to their proposed cost commitment (this is the cost cap for the selected mission), so SMD does not want the study team to provide a range of costs in the concept study report. SMD requires a single cost commitment that includes adequate reserves within the project's control.

Because this is still a competition, and because NASA wants an independent assessment of the range of cost and schedule estimates, and because SMD doesn't want the study team to propose a range of cost and schedule estimates, SMD is having an independent assessment conducted in parallel with the Phase A Technical/management/Cost (TMC) review. The results of this assessment will not be made part of TMC. TMC works well as it is and we are not making changes. The extra assessment will be in parallel and will not impact TRL. It will be made available to the Selection Official (as directed by Scolese).

We are requesting the necessary data from the study teams to support this independent assessment of cost and schedule ranges. This is data that the teams should have already developed in support of their proposed cost commitment. This is a new requirement for reporting data within the concept study report. This is not a requirement to generate new data. We have not required a complete resource loaded schedule. We are requesting the minimum data necessary for us to estimate a cost range, with probabilities.

**Question 26b:** What are the changes being made to the CSR Guidelines in response to the discussions between HQ, GSFC, and JPL on November 23-24?

Answer:

**Requirement CS-6A.** The CDs shall also contain an electronic version of the schedule in a Microsoft Project format. The tasks in the schedule must follow the standard WBS defined in NPR 7120.5D NID. The detail on the schedule **must is requested to** go to at least level 3 for the spacecraft (one level below the spacecraft level) and level 4 for the payload (one level below each instrument) **where the data is available**. ~~For WBS elements in which risks have been identified, the schedule must be detailed down to the level of the WBS element associated with the risk. Resources must be assigned to tasks at the lowest level.~~ The CD must also contain the trajectory information defined in Requirement CS-26A.

**Requirement CS-44A.** ~~The significant mission risks, including development risks, must be identified in a 5 by 5 matrix of likelihood versus consequence. For all identified risks, discuss the likelihood (in % probability), consequence (quantified in dollars, schedule, mass, etc.), mitigations, the associated WBS number(s), and the project phase in which issues may arise. At a minimum, the top 5 development risks and the top 5 operations risk must be identified. The information provided to respond to this requirement must be placed in a new appendix labeled Appendix M.21.~~

Requirement CS-61. This section shall provide a foldout cost table, Table B3, which will not be counted against the page limit. Table B3 shall identify the proposed cost required in each mission phase and in each fiscal year; the costs shall be in RY\$. The top portion of Table B3 shall contain cost data relevant to the PI-managed Mission Cost. The lower portion shall contain cost data for contributions and enhanced mission costs. The rows in Table B3 shall be the NASA standard WBS elements as defined in NPR 7120.5D NID. The costs for most elements shall be provided to WBS level 3. **It is requested that instruments be shown to WBS level 4.** Exceptions are the costs of individual instruments and any unique flight system elements such as landers or sample return capsules, which shall be explicitly shown. The columns in Table B3 shall be grouped and subtotaled by mission phase and shall be labeled with the appropriate fiscal years. Fiscal years that span more than one mission phase shall be split into two columns by mission phase. The table includes totals by phase and life cycle in RY\$ and FY09\$. Proposers shall use their own forward pricing rates to translate between RY\$ and FY09\$. For organizations that are without approved forward pricing rates, proposers may use the NASA inflation/deflation indices in Table B4 in Appendix B of the AO to translate between real year dollars (RY\$) and fiscal year 2009 dollars (FY09\$).

**21. ~~Significant Mission Risks.~~ [Added October 12, 2010]**

~~The significant mission risks, including development risks, must be identified in a 5 by 5 matrix of likelihood versus consequence. For all identified risks, discuss the likelihood (in % probability), consequence (quantified in dollars, schedule, mass, etc.), mitigations, the associated WBS number(s), and the project phase in which issues may arise. At a minimum, the top 5 development risks and the top 5 operations risk must be identified.~~

**Question 27.** In light of the 65 proposal copies requirements for Discovery and Explorers, is there still a need for 90 copies of our CSR package?

Answer: Yes.

**Question 28.** Will electronic confirmation via emails meet the requirement for the personal letters of commitment requested under requirement CS-79?

Answer: Yes as long as you include a copy in the CSR.

**Question 29.** Should Requirement CS-61 say “where data is available” to be consistent with Requirement CS-6A?

Answer: Yes. The revised version of Requirement CS-61 is

Requirement CS-61. This section shall provide a foldout cost table, Table B3, which will not be counted against the page limit. Table B3 shall identify the proposed cost required in each mission phase and in each fiscal year; the costs shall be in RY\$. The top portion of Table B3 shall contain cost data relevant to the PI-managed Mission Cost. The lower portion shall contain cost

data for contributions and enhanced mission costs. The rows in Table B3 shall be the NASA standard WBS elements as defined in NPR 7120.5D NID. The costs for most elements shall be provided to WBS level 3. **It is requested that instruments be shown to WBS level 4 where the data is available.** Exceptions are the costs of individual instruments and any unique flight system elements such as landers or sample return capsules, which shall be explicitly shown. The columns in Table B3 shall be grouped and subtotaled by mission phase and shall be labeled with the appropriate fiscal years. Fiscal years that span more than one mission phase shall be split into two columns by mission phase. The table includes totals by phase and life cycle in RY\$ and FY09\$. Proposers shall use their own forward pricing rates to translate between RY\$ and FY09\$. For organizations that are without approved forward pricing rates, proposers may use the NASA inflation/deflation indices in Table B4 in Appendix B of the AO to translate between real year dollars (RY\$) and fiscal year 2009 dollars (FY09\$).

**Question 30.** The CSR Guidelines document uses the terms "reserves" and "cost reserves" while NPR 7120.5 NID Appendix A specifically defines "reserves" as an "Obsolete term. See Unallocated Future Expenses." UFE includes funds held at both the Project and Program/Mission Directorate level, while "reserves" and "cost reserves" as defined in the CSR Guidelines document are specific to funds held at the Project level only. Thus, the terms are not interchangeable. Given that UFE is really a "future term", can you issue formal guidance that will resolve this ambiguity?

Answer. Concept study reports should be submitted consistent with the definitions in the CSR Guidelines. Cost reserves should be within the cost commitment and are therefore held by the project. The CSR should not identify UFE that are not held by the project and, if added to the project cost commitment, would take the project budget beyond the New Frontiers AO cost cap. As per SPD-19, SMD will identify UFE no later than KDP-C to meet Agency requirements. These UFE are not held by the project, and provision of UFE funds to the project beyond the confirmed budget constitutes an overrun of the PI's cost commitment.

**Question 30A.** Okay, if I read your response correctly, then we can still use "reserves" and "cost reserves" in our CSR submittal with no fear of being pummeled by TMC reviewers with a "NPR 7120.5 NID clearly states that these are obsolete terms" bat, correct?

Answer. Yes, that is correct.

**Question 31.** Will the TMC be doing an independent cost assessment for all contributed aspects of each NF mission concepts?

Answer. Yes. The cost realism of contributed items will be assessed.



**Question: 32.** With the removal of requirement CS-44A, the associated "Risks" appendix M.21 is also deleted. Can we renumber and make the current appendix M.22 (Impact of the NLS2 Contract) appendix M.21?

Answer: No. Leave Appendix M.21 blank to maintain consistency with the CSR Guidelines.

**Question 33.** Requirement CS-1 allows the cost proposal section K to be submitted as a separate volume. Can appendix M.16 (Additional Cost Data to Assist Validation) be included in this separate cost volume?

Answer: Yes, that would be fine.

**Question 34.** Is there a date beyond which questions regarding the NF AO and CSR guidelines will no longer be accepted?

Answer: Not really. You are all working under contract on a deliverable, not submitting proposals, so we can keep talking as long as it is useful. Better that you don't waste your time doing non-useful work, so I like answering questions that prevent that.

**Question 35.** The CSR guidelines allow for submittal of Cost section as a separate volume. In your response to Question 33, you also allow Appendix M.16 (Additional Cost Data to Assist Validation) to be combined with Section K (Cost). Is it allowable for proposers to submit the remaining appendices in one or more additional volumes?

Answer: Yes. Given a choice, we prefer as few volumes as possible just to give us fewer things to carry around during the evaluation process. However since your evaluation does not depend on the number of volumes, and there are only three CSRs, we are willing to be flexible if it would simplify things for you.

**Question 36.** The example template of Table 2 has costs by FY. However, per CS-68, Phase B shall be phased by month. Does Table 2 for Phase B need to be provided to a monthly granularity or summarized by FY?

Answer. Yes, Phase B costs in Table 2 need to be provided by monthly granularity and then summed by FY. Provide Phase B costs in Table 2 format by month (Requirement CS-68) and by FY (Requirement CS-63).

**Question 37.** Is Table 2 required for Phase F as well, or is CS-71 supposed to read "Table 3"?

Answer. Follow the instructions in the guideline document which clearly state "Provide a summary of the total Phase F costs consistent with Table 2. "

Answer to unasked **Question 38**. Thanks for finding typos in the CSR Guidelines! We now realize the cost data requirements for Phase C/D/E are different from the Phase B and Phase F cost data requirements. We intended that CS-69 (Phase C/D) and CS-70 (Phase E) would look like CS-71 (Phase F) and ask for a Time-Phased Cost Summary consistent with Table 2 (not Table 3). Don't panic, we are making no changes to the CSR requirements at this late date! However you should expect us to ask for the intended data (Phase C/D/E Time-Phased Cost Summaries consistent with Table 2) at the site visit.

**Question 39**. Given the requested granularity, Table 2 won't fit on one page and still be readable. Can you provide direction that we can go to more than a page for Table 2?

Answer. Since Table 2 is in Section K Cost Proposal, there is no page limit. You are relieved of the requirement in CS-63 that says Table 2 must be completed in one page. (That is the only place I could find such a requirement.)

**Question 40**. Who do I contact for a Letter of Commitment from the Launch Services Program (LSP)?

Answer. The way we plan for the proposal review process to work is that LSP will provide someone to review the concept study reports to see if the launch services described match what LSP can provide. A letter of commitment is unnecessary as we will evaluate the contents of the concept study.

**Question 41**. The CSR Guidelines specify information to be contained in the Graphic Cover Page AND Investigation Summary however CS-9 indicates that some of the information that the AO requires to be in the Summary Information page is to be included in the Graphic Cover Page (e.g., Names and institutions of all participants in the investigation; The total NASA – SMD cost of the investigation; The proposed contributions and contributing organizations, and A summary of the investigation, not to exceed 300 words.). The requirement also asks for NASA – SMD cost of the investigation which does not seem to be defined elsewhere. Please clarify.

Answer. There is no NSPIRES submission for the CSR, so NSPIRES will not be creating the Summary Information for you like it did for the Step 1 proposal. You need to do it yourself. Requirement CS-9 specifies the content of the Graphic Cover Page. Apparently the CSR Guidelines do not specify the content of the Summary Information. Oops. It is certainly too late for us to rectify that – so whatever you decided to put in the Investigation Summary will be compliant.

The “NASA-SMD cost” is the same as the SMD cost – it is the funding you are requesting from SMD for the mission. It is the same as the “PI Managed Mission Cost” in the AO.