

Announcement of Opportunity (AO) Simplification White Paper: Draft Decisions 5/31/08

After due diligence to solicit from the community as well as from the AO managers and stakeholders the best ideas to simplify to the extent possible (given existing regulations and requirements), the following is an accounting of the decisions made for each idea or set of ideas. As was the case at the outset, the draft decisions are bounded by the objectives to:

1. Simplify and remove as much burden from the community to propose Step 1 proposals in response to AOs.
2. Limit the changes to Step 1 proposal responses without changing the basic 2-Step selection process now in place.
3. Do not make changes that will substantially affect the quality of proposals being received nor limit NASA's ability to determine the risk of such proposals for implementation.

Study Team

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Process

The AO Simplification Team has solicited broadly for suggestions and ideas from the proposing and reviewing communities. This solicitation includes (i) setting up a dedicated website and email address, (ii) issuing NSPIRES and FBO announcements, (iii) conducting town meetings at major science conferences, (iv) holding two lessons learned workshops for the proposing community (scheduled for after SMEX proposal submission), (v) holding a virtual lessons learned workshop for the reviewing community (scheduled for after completion of SMEX proposal evaluation), (vi) requesting coordinated input from GSFC and JPL, and (vii) participating in an AO requirements review with a group of proposers. The Team has also worked with stakeholders to simplify and streamline various interfaces including proposal submission, international participation, launch services, space communications, procurement, and legal. The AO Simplification Team has received more than 500 suggestions for changes (as of 4-23-08 log).

Based on community input and team review, a Standard AO will be written. The Standard AO will be issued in draft form for community comment. After incorporating community comments, the final Standard AO will be placed under configuration control by SMD.

The New Frontiers AO will be based on the Standard AO.

Note upon posting of this White Paper (September 29, 2008)

This White Paper represents a snapshot of the AO Simplification effort while it was in progress. It captures the status and rationale of AO Simplification as of May 31, 2008. This was after the Cost and Schedule Lessons Learned Workshop, but before the release of the Draft Simplified AO for community comment, before the completion of all Open issues, and before the review for concurrence of the Standard AO Template by SMD and Agency management at NASA Headquarters. All of these activities resulted in a large number of excellent comments and suggestions, many of which were incorporated. None of that work is reflected in this White Paper.

The Standard AO Template, as posted at <http://sso.larc.nasa.gov/aosimplification.html>, is the final product of the AO Simplification Team. The Standard AO Template, as released, takes precedence over any “recommendation” that may be found in this White Paper. Not all recommendations of the AO Simplification Team were accepted by SMD Management.

Taxonomy of Suggested Changes

All suggested changes have been categorized into the following sets.

- RECOMMENDED and being implemented in Draft Standard AO.
 - NOT RECOMMENDED and not being implemented in Draft Standard AO.
 - OPEN ISSUE while AO Simplification Team collects addition input, including feedback from SMD senior management.
 - BEYOND SCOPE of AO Simplification.
- A. Big (and Small) Philosophical Rules [11 ideas, 6.5 Recommended, 4 Not Recommended, 0.5 Open Issues]
 - B. Structure of the Standard AO [10 ideas, 6.5 Recommended, 3.5 Not Recommended]
 - C. Simplify/Clarify/Eliminate Requirements in Step 1 AO [27 ideas, 19.5 Recommended, 5 Not Recommended, 2.5 Open]
 - D. Improve Flexibility of AO [3 ideas, 3 Recommended]
 - E. Proposal Submission Flow [6 ideas, 3 Recommended, 2 Not Recommended, 1 Open Issue]
 - F. Cost and Schedule Technical Data [26 ideas, 19.5 Recommended, 4.5 Not Recommended, 1 Open]
 - G. AO Process (many ideas beyond scope of AO Simplification) [8 ideas, 2 Recommended, 1 Not Recommended, 5 Beyond Scope]
 - H. Operational Improvements [4 ideas, 4 Recommended]
 - J. Evaluation Process [8 ideas, 4.5 Recommended, 2.5 Not Recommended, 1 Open Issue]

Part A. Big (and Small) Philosophical Rules

A-1. Create a Standard AO with a Standard Outline and Standard Language for core AO requirements; impose configuration control of AOs; allow limited flexibility to individual programs to tailor AO core requirements.

- Create a Standard AO, with a Standard Outline, for all Science Mission Directorate (SMD) mission AOs. The Standard AO has specific sections and topics where customization is allowed by Programs.
- Assure the consistency of requirements across all SMD AOs.
- Reduce the burden on proposers to identify and respond to small changes from AO to AO.
- Ensure that AOs will remain simplified and not become “encrusted” with layers of idiosyncratic requirements.

RECOMMENDED

A-2. Remove Missions of Opportunity from mission and instrument AOs.

- Do not have AOs with two very different sets of requirements for two very different kinds of proposals.
- Solicit Missions of Opportunity in a separate AO.

RECOMMENDED and DONE. See SALMON, the Stand Alone Mission of Opportunity Notice (SALMON) AO

A-3. Accept more uncertainty in findings of Technical/Management/Cost (TMC) evaluation.

- Recognize that reduction in depth/level of detail of technical and cost data in a Step 1 proposal necessarily results in less certainty in the TMC risk rating.
- This additional uncertainty is small compared to the uncertainty inherent in being in Pre-Phase A.
- This can be compensated for with more over selection in Step 1 to compensate for additional uncertainty in risk due to reduced technical insight.
- This is a necessary consequence of simplifying technical input.

RECOMMENDED

A-3A. Assess mission feasibility including cost risk against 5 risk levels rather than the current 3 risk levels.

- Provide additional resolution to Selection Official.
- Contrary to recognizing the intrinsic immaturity of a Pre-Phase A project.
- Contrary to recommendation to accept more uncertainty in TMC evaluation.

NOT RECOMMENDED

A-4. (a) Treat launch services as Government Furnished Equipment (GFE) with the cost for standard launch services outside the cost cap. (b) Establish a standard interface for proposers, managed by SMD, to obtain launch vehicle (LV) information during the Step 1 proposal period.

- Recognize that Principal Investigators (PIs) cannot control launch service costs because the launch providers are not under contract to the PI, launch services are under contract to and managed by NASA.
- State in the AO that PIs are not responsible for managing the launch service provider.
- Note that this means NASA takes on the risk of LV cost increases; this is not a risk for the PI against the cost cap.
- Standard launch services are available at no charge to the cost cap; the AO will provide the specific capabilities that are available as a standard launch services.
- Special services may be proposed at a fixed cost against the cost cap. The AO must include a catalog of special services including costs.
- Where multiple launch vehicles are available with very different costs, fixed costs against the cost cap may be used to enable PIs to make appropriate trades in mission design. Functionally this treats the larger LV as a special service.
- In recent AOs, the Launch Service Provider (LSP) Office at KSC has not been appropriately responsive to proposers during the AO proposal period. SMD must work with SOMD and LSP to fix the LV support process. Need SMD control of interface to ensure fair and appropriate responsiveness.
- Simplify / improve / replace the interface with KSC for the proposers. Options include having proposers interact directly with KSC LSP or passing all questions through Program Officer and posting responses on FAQ.

(a) RECOMMENDED: Standard launch services are outside of cost cap, special launch services are costed by schedule against cost cap, NASA takes risk of cost increases in launch services (that is what GFE means).

- How do proposers get technical launch service questions answered during AO period? Could be direct to KSC LSP or could be through program scientist with all Q&A being made public.

RECOMMENDED: Have KSC/LSP identify a single POC. During pre-AO period, POC interacts directly with proposer community to answer questions. Once the AO is released, all questions must go through the AO Program Officer. If the Program Officer approves a question, the POC then interacts with the questioner to provide an answer. All answers must be provided in writing and the Program Officer is copied. All responses must be provided to Program Officer. The Program Officer determines whether the Q&A is of general interest, and the Program Officer is responsible for posting a version of the Q&A without any proprietary information in the FAQ. The LSP POC is not a partner with any proposer and does not participate in writing proposals. Therefore the LSP POC may participate in evaluation.

A-5. Standardize Evaluation Weights for Categorization.

- There is no compelling reason why evaluation weights for (A) science merit, (B) science implementation merit, (C) TMC feasibility including cost risk should be a function of mission size and vary from AO to AO.

- Traditionally Step 1 has been heavily weighted toward science as reflected by the historic 40 / 30 / 30 weighting of evaluation criteria.
- Recently more emphasis has been placed on technical/management/cost feasibility, especially cost realism and cost risk, as reflected by the 25 / 25 / 50 weighting of evaluation criteria in the SMEX AO.
- Substantial input was received emphasizing the immaturity of cost estimates for a Pre-Phase A proposal and recommending that science and science implementation be emphasized in Step 1, while TMC feasibility including cost risk is emphasized in Step 2.
- Eliminate variability in weighting from one AO to the next
 RECOMMENDED use the same weighting for all SMD AOs.
 RECOMMENDED: Use New Frontiers weighting for Step 1: 40/30/30.

A-6. Soften Cost Cap for proposals within a given AO.

- Recognizing that projects are in Pre-Phase A, allow flexibility in proposed costs. The mission cost cap is not set until later, such as downselection (KDP-B) or Confirmation (KDP-C).
- When more than one mission is expected to be selected, have a bulk cost cap similar to ROSES (e.g. three missions will be selected for flight with a combined cost up to \$315M), and let proposers decide whether to propose above or below the average cost.
- The AO Simplification Team believes that a cost capped competition cannot be conducted unless the cost cap is hard. The AO Simplification Team believes that most AOs will solicit only one or two missions, which decreases the attractiveness of the bulk cost cap.
 NOT RECOMMENDED

A-7. Fund Science Enhancement Options (SEOs) outside of the cost cap.

- Treat all SEOs, including data analysis programs (DAPs) and General Observer (GO) programs, as optional and outside the cost cap.
 RECOMMENDED as standard for all AOs.

A-8. Remove Education and Public Outreach (EPO) requirements from Step 1 proposals.

- Currently EPO is not evaluated until Step 2 but proposers are expected to provide a two page description of their EPO program. This wastes the effort for the 90% of proposers who are not selected to enter Step 2/Phase A.
- Currently all proposers put together EPO teams. This ties up 90% of potential EPO partners with proposal teams that are not selected for Step 2/Phase A. This could prevent the best EPO partners from participating in Step 2/Phase A.
 RECOMMENDED: Step 1 proposals require only (i) a single sentence of commitment and (ii) a specific budget line where the required funding for the EPO program is held. Step 1 proposals are not permitted to provide an EPO plan or to identify an EPO lead.
 OPEN ISSUE: What is the required minimum/maximum spending for mission EPO programs? Wait for EPO MOWG to report out on this subject before standardizing. Standard for SALMON and New Frontiers is “up to 1%.”
- How should Student Collaborations be handled?

RECOMMENDED: Student Collaborations that propose hardware should be reviewed during Step 1 ONLY for the impact on mission feasibility. Any potential weaknesses are reported by TMC on Form C. To the extent that the Student Collaboration is separable, there are no weaknesses only comments. Like all other E/PO, it will not be reviewed for its merits in Step 1. Student Collaborations will be fully reviewed for merit in Step 2 along with other E/PO.

OPEN ISSUE: Are Student Collaborations within the proposal cost cap? Student Collaboration PDT report recommends not.

RECOMMENDED: Keep them within the cost cap until/unless directed to do otherwise.

A-9. Normalize the treatment of new technology and Technology Demonstration Options (TDOs).

- Origin of PI-led small missions was in era of flagship missions. Flagships do technology development and it trickles down to PI-led smaller missions. Not clear if still good model.

- Allowing TDOs to be proposed has not been successful. The evaluation criteria are unclear, and the presence of TDOs is often inconsistent with the Risk Class of the mission.

- The use of new technology has been allowed when the proposer has a plan for maturing the technology and for mitigating the risk that new technology brings.

(a) RECOMMENDED: No TDO in Standard AO, standard new technology language requiring mitigation of risk.

(b) RECOMMENDED: New technology rules may change from AO to AO, recognizing that some programs may choose to infuse NASA-sponsored new technology. SMD will accumulate a menu of standard options through experience writing multiple AOs (i.e. this is a customizable part of the Standard AO).

A-10. Allow alternative management model: Project Manager (PM) as proposal and mission PI, scientist as science investigation PI but not mission PI.

- The standard management model has a science PI being mission PI, with the PM reporting to the PI.

- An alternative model is to have the PM be the mission PI (and the proposal PI) and have the science PI report to the PM.

- This model appears consistent with PI experience documentation, where experience gained as a PM can qualify an individual to be mission PI, but this model is not captured in current AOs.

This model is not consistent with traditional meaning of PI-led mission model and with recommendations of NRC reports.

NOT RECOMMENDED: Removal of minimum PI experience requirements makes this unnecessary and unjustified.

B. Structure of the Standard AO

B-1. Reformat the Standard AO to consolidate and clearly identify (number) all proposal requirements.

- Recognize the difference between proposals on the proposal (must provide block diagram of spacecraft) and requirements on the mission (you'll need to do everything in NPR 7120.5D but you don't have to tell us how you will do it in the proposal). Clearly separate proposal requirements from downstream mission requirements.
- Clarify what the proposal requirements are and eliminate implied requirements. Put all proposal requirements in the AO. State clearly that there are no proposal requirements in the Program Reference Library. The Program Reference Library is for reference material only (e.g. science background, mission – but not proposal – requirements).
- Include all proposal requirements in clearly identified sections of the AO. Number the proposal requirements. If it is not numbered, it is not a requirement.
- Remove duplication of content in Standard AO. Eliminate requirement redundancies in all sections of AO.

RECOMMENDED: Possible appendix with cross-reference of all proposal requirements.

B-2. Better proposal template and instructions on what to include and where (i.e. improve Appendix B of the Standard AO).

- Standardize outline for proposal response. Make sure it is clear (specify the section labels) and contains major categories to be addressed. Do not over constrain, allow freedom to tell proposal story well.
- Provide a dictated Proposal Format
- Separate Section D into Science and Science Implementation.
- Remove duplication of content requested in AO (e.g. instruments) and identify where it goes.

RECOMMENDED Appendix B contains proposal template and all proposal template and format requirements.

B-3. Clarify evaluation factors

- Clarify/be very specific on what will be evaluated. Where possible, give standards or expectations.
- There are no proposal requirements in the evaluation section of the AO.

RECOMMENDED

- Specify the standards for each evaluation factor.

NOT RECOMMENDED: Evaluation factors are not scored for an AO; this distinguishes an AO from a RFP.

B-4. Clarify/Fix all of the AO libraries

- Clean up Program Reference Library for each AO.
- Link to NPR 7120.5D requirements like Mission Class, and do not incorporate into AO. Clearly separate mission requirements from proposal requirements.
- Should not put unapproved documents with uncertain mission requirements in the Program Reference Library.

RECOMMENDED: Library contains all referenced documentation. No proposal requirements may be found or inferred from the library -- have a disclaimer in the AO and in the library that the library may impose requirements on missions but it does not impose requirements on proposals.

B-5. Clarify whether there is Cat III money available to mature concepts and technology.

RECOMMENDED: Standard AO language says that funding of Cat III proposals is always possible but it is neither automatic nor required.

B-6. Use examples to demonstrate desired data for AO Tables (e.g. Cost Tables)

- Provide examples with all Tables, preferably two very different examples, to demonstrate that there can be more than one way to fill in the table and provide the information.
- Examples tend to be interpreted as requirements and all proposers may try to fit their data into the example rather than using an optimal format.
- It would be a lot of work.

NOT RECOMMENDED but the requirements should be very clear. Exceptions are allowed where they make sense. Requested formats are encouraged.

B-7. State order of precedence for documents.

- The AO must state the order of precedence for various documents including the AO, the AO appendices, the Program Reference Library, the FAQ for the AO, NPR and NPD documents, Federal regulations, and statutes.
- It must be clearly stated that the AO takes precedence. The FAQ cannot modify the AO. If the FAQ is intended to modify the AO then the AO must be formally amended.

RECOMMENDED: State this in Standard AO.

B-8. Place page limits on appendices.

- Some preference for limiting the size of proposal appendices, and thereby limiting the amount of data that can be provided. One participant described unlimited proposal appendices as an opportunity to “carpet bomb” NASA with data.
- An alternative is a better description of what is required and what level of detail is expected.

NOT RECOMMENDED: Page limits on proposal appendices.

RECOMMENDED: Crisp description of requirement for proposal appendices and expected level of technical detail.

B-9. Reduce TMC requirements in Step 1.

- Reductions in technical areas like telecom appendix, generic mission assurance, etc.
- Don't ask for unneeded items relative to evaluation criteria.
- Reduce technical content and level of detail wherever prudent.
- Avoid specifics where they are not requirements.

RECOMMENDED: Detailed implementation spelled out in Section C.

B-10. Allow variable depth of detail depending on AO, size of mission.

- What is the appropriate depth of detail requested in proposals? How many pages are required to provide that detail? A pointed comparison was drawn between 20 pages for ROSES proposals (for a few \$100K) and 20 pages for the science section of a mission proposal (for many \$100M).
- Should the level of detail vary as a function of mission size (e.g. more depth of detail for New Frontiers than SMEX)?
- A larger project is more complex and takes more time, people, money, pages to describe at the same level of detail (see D-1).

NOT RECOMMENDED: No variable level of detail, all AOs require level of detail appropriate for a Pre-Phase A project. If more pages are allotted for larger, more complex missions that is because it takes more pages to describe a complex mission at the same depth of detail.

C. Simplify/Clarify/Eliminate Requirements in Step 1 AO**C-1. Do not require description of established, as expected products and processes (e.g. standard spacecraft busses, standard systems engineering, all motherhood statements, etc.).**

NOT RECOMMENDED: Not practical to implement.

C-2. Standardize and clarify requirements for foreign contributions.

- Reduce/combine the Proposed Contributions Appendix.
- Reduce/combine Technical Responsibilities US/Foreign Appendix
- Delete the US Export Laws/Regulations Appendix

RECOMMENDED: Merge requirements for foreign contributions into a single proposal appendix with simplified requirements. Proposal must explain what the contribution is, how it will be managed, and whether it has an appropriate endorsement by contributor. Discussions of detailed plans for ITAR and MOUs can be deferred to the Phase A CSR.

OPEN ISSUE: Must discuss this with Office of External relations (OER) and AAA/International to obtain endorsement.

C-3. Reduced requirements for Letters of Commitment (LOCs) and Letters of Endorsement (LOEs).

- Simplify the requirements for LOCs, LOEs, and Co-I CV's (standardize language)
- Clearly specify when such letters are required, i.e. state thresholds for "key partners" in terms of value or uniqueness or criticality.

RECOMMENDED: AO must specify thresholds for required letter.

C-3A. Clarify when Letters of Commitment are required.

- Required for all contributions except salary for science team members.
- If science team members' organizations are contributing hardware or development services other than the time and effort of the science team member, then a letter is required.

RECOMMENDED

C-3B. Clarify when Letters of Endorsement are required.

- Required for all named major or critical partners who are funded by NASA funding (i.e., not making contributions).
- List of major partners should match list in required table of all organizations named in proposal (see F-6D).
- If an organization is making a contribution and receiving NASA funding, then only a single letter is required from that organization.

RECOMMENDED

C-3C. Eliminate requirement for Co-I Letters of Commitment.

- Co-Is commit through NSPIRES. No letter required.

RECOMMENDED

C-3D. Clarify what should be on a resume.

- A resume should include information about the individual that is useful in determining the individual's qualifications for the proposed job.
- A resume should be more than a list of arbitrary milestones; a well selected list of milestones can be helpful in demonstrating that the individual is qualified.
- The AO should give guidelines for a useful resume.

RECOMMENDED

C-3E. Provide recommended format and/or content for organizational chart.

RECOMMENDED

C-4. Don't require PM naming until Step 2/Phase A.

- The lengthy evaluation and selection process requires proposing organizations to "park" named PMs while awaiting selection decisions.
- Don't name the PM in the Step 1 AO, just the qualifications
- Could provide a pool of potential PMs,
- Define what "fully qualified" means.
- Who needs to be named? PI and all Co-Is; differentiate between Co-Is and Collaborators.
- Clearly define "key personnel"

NOT RECOMMENDED: Do not require PM to be named.

- The AO should require that the PM in Phase A is expected to be the PM in Phase B following downselection.

RECOMMENDED: PM must be named. However PM can be named on more than one proposal from same organization.

RECOMMENDED: Name all Co-Is and collaborators; define key personnel to be PI, PM, industry lead, instrument leads – but not deputies.

C-5. Define "goals" vs "objectives."

- Clearly define "Level 1 Requirements" in AO.
- Should draft Level 1 requirements be proposed in Step 1 proposal?

RECOMMENDED: Define goal vs objective, must also define measurement objectives.

RECOMMENDED: Do not require drafting Level 1 requirements in Step 1 proposal.

RECOMMENDED: Require proposal to include clearly the science objectives and measurement requirements that form the intellectual basis of the Level 1 requirements.

C-6. Separate Evaluation/Selection Requirements from Procurement and delete Procurement.

- When selecting a mission, do not conduct this as a procurement activity. SMD would then be relieved of following all of the procurement regulations that impose limitations on the Step 1 process.

- For example, eliminate Phase A SOW, Civil servant PI appendix, SDB plan, etc.

NOT RECOMMENDED: The AO process is inherently a procurement activity, where the Government procures a science investigation to advance strategic science objectives.

C-7. What is needed from Program Offices to establish appropriate Phase A contracts with appropriate options?

- Should ensure AO solicits that information, but not procurement information that is not required for establishing the Phase A contract.

- Need to discuss with Program Offices.

OPEN ISSUE: Still conducting research.

C-8. Delete NASA PI Appendix.

- Suggested (not by a NASA Center) to get rid of this requirement.

- This proposal appendix is required for Government proposals to ensure that the AO selection meets all requirements of the Competition in Contracting Act (CICA). The appendix quotes the requirements in NFS 1872.308.

NOT RECOMMENDED. This is required. NOTE: Standard AO will refer to NFS 1872.308 and PIC 05-15. It will include a better definition of applicability.

C-9. Delete SDB requirement from Step 1 proposals.

- Probably not allowed.

- The Government may be required to solicit SDB information in midst of a competitive process not during post-selection contracting process. Open question is whether Step 2/Phase A can count as a competitive process (even though it does not lead to new contracts).

- Need to have detailed discussion with small business office.

OPEN ISSUE: Still conducting research.

C-10. Revise handling export controlled material in proposals.

- Conflicts of interest are increasingly requiring NASA to use foreign reviewers for the science peer review (not for the TMC review).

- Current practice is to eliminate export controlled material, as identified by the proposer, from proposals before providing to foreign reviewers.
- This is clumsy and it presents foreign reviewers with partially complete proposals for evaluation.
- Eliminate all export controlled material from proposals.
NOT RECOMMENDED: Cannot have credible response to AO without including export controlled material.
- Get export licenses for foreign peer reviewers.
NOT RECOMMENDED: According to HQ export control officer, NASA can only give exemptions from TAA requirement for approved projects not for proposal evaluation.
- Identify export controlled material in proposal. Redact proposals provided to foreign reviewers
RECOMMENDED: Status quo.

C-11. Remove requirement to complete a compliance checklist and include it in the proposal.

- Burden on proposers to complete proposal, thus identifying page numbers, before this table can be filled out and included in the proposal.
- Suggestion is to include a compliance checklist in the Standard AO, but not require proposers to fill it out and include it in the proposal.
- Standard AO will clearly state that the proposal requirements in the compliance checklist are the requirements that are checked for compliance before evaluation begins, and that the many other proposal requirements will be dealt with during evaluation.
RECOMMENDED: Proposer does not fill in compliance checklist.

C-12. Have consistent requirements for margins, font size, etc.

RECOMMENDED

C-13. Reduce communication and tracking requirements.

- Reduced Telecom Requirements (Link Budget Appendix)
- Eliminate requirement for letter of commitment for NASA telecom (this eliminates the implied loading study).
- Standard cost template for use of NASA networks (like Deep Space Network (DSN), but also for Ground Network (GN) and Space Network (SN)).
RECOMMENDED: Details pending further coordination with SOMD and Office of Space Communication and Navigation (SCAN).

C-14. Delete requirement for descope plans.

- Clarify requirements for a descope plan. Do we really mean “contingency planning” that incorporates cost avoidance?
- Descopes must be taken early, but robustness against cost increases can be demonstrated through additional options that are not classical descopes.
RECOMMENDED: Clarify language to require an approach to staying in the cost/schedule box; approach can include a number of tools one of which is descoping.

C-15. Reduce Environmental Test Philosophy Requirements (flow, sequence, duration, etc).

- Need to specify level of detail required. Do not need to specify test specifics.
- Need to discuss proposal unique requirements.
- Discussion is not just about process; proposals should include an abstract of the process and concentrate on showing the functionality of the process as applied to this project – how will the application of this activity and this process benefit the project.

RECOMMENDED

C-16. Reduce/eliminate Product/Mission Assurance.

- Mission assurance philosophy needs to be discussed, but description should be kept at a level of detail appropriate for a Pre-Phase A project.
- Discussion is not just about process; proposals should include an abstract of the process and concentrate on showing the functionality of the process as applied to this project – how will the application of this activity and this process benefit the project.

RECOMMENDED: Need to include at high level and provide philosophy, need crisp description of proposal requirements

C-16A. Delete requirement for a risk management plan.

- Just require a discussion of top risks.
- In Pre-Phase A, this is the most useful and realistic part of risk management planning.
- Discussion is not just about process; proposals should include an abstract of the process and concentrate on showing the functionality of the process as applied to this project – how will the application of this activity and this process benefit the project.

RECOMMENDED.

C-17. Delete requirements to discuss fault protection.

- Fault protection philosophy needs to be discussed, but description should be kept at a level of detail appropriate for a Pre-Phase A project.
- Fault protection needs to be described to the extent that it is part of the mission architecture.
- Discussion is not just about process; proposals should include an abstract of the process and concentrate on showing the functionality of the process as applied to this project – how will the application of this activity and this process benefit the project.

RECOMMENDED: Fault protection required to be described to the extent that it is a part of the mission architecture

C-18. Reconsider the Heritage Appendix.

- There was mixed reaction as to whether the new heritage appendix is burdensome to create and whether it is a useful evaluation tool.

DEFERRED until TMC workshop, ask SMEX evaluators.

NO CONSENSUS by proposers.

CONSENSUS to keep by evaluators.

RECOMMENDED: Keep Heritage appendix but improve the columns of the table.

C-19. Remove orbital debris requirement for Step 1 proposals.

- In Step 1, it should be sufficient to acknowledge the orbital debris requirements. Pre-Phase A is too early for designing the implementation.
- Orbit lifetime considerations must be addressed at this stage because they could drive mission architecture (e.g. need for a propulsion system).

RECOMMENDED: AO no longer require a discussion of debris created upon reentry. AO still required to discuss the expected orbital lifetime and how spacecraft disposal requirements will be met.

C-20. Remove planetary protection plan requirement for Step 1 proposals.

- In Step 1 it should be sufficient to acknowledge the planetary protection requirements. Pre-Phase A is too early for designing the implementation.

NOT RECOMMENDED: However planetary protection requirements should be at an appropriately high level of detail; AO needs crisp description of proposal requirements.

D. Improve Flexibility of AO**D-1. Adjust proposal page counts.**

- Increase proposal page count for some sections/Decrease for ALL Sections
- Should the page limit vary as a function of mission complexity (e.g. multiple flight segments, multiple instruments, complex flight operations)?

AGREED: It might be appropriate to allow more pages for more complex missions (multiple flight segments, multiple instruments, complex mission architecture, complex flight operations especially encounters).

RECOMMENDED: The proposal be allocated a core page limit plus two additional pages for each instrument and two additional pages for each flight element. AO will require loose definitions of instruments and flight elements.

D-2. Allow flexibility in the number of foldout pages.

- Why limited to exactly 5 foldouts as a separate page limit from the regular page limit?
- Why not count a foldout as two pages, and allow proposers to have as many/few foldouts as desired within the overall page limit?
- Equivalent page limit to 5 foldouts and 20 pages is 30 pages (where foldouts count as two pages each).

RECOMMENDED. Foldout counts as 2 pages, limit total pages including foldouts.

D-3. Eliminate need for original signed letters.

- It is an additional burden to collect letters of recommendation, letters of endorsement, signed CVs, etc. with original signatures.

RECOMMENDED. The only original signature required is the signature of the authorizing official from the proposing organization on the proposal cover page.

E. Proposal Submission Flow

E-1. What is official submission?

- NSPIRES submission or signed original hardcopy? Legally don't need both to be official, only need one.
- It is burdensome to require the same person who signs the proposal cover page (could be institutional director) to be the person that submits the electronic cover page through NSPIRES.
- It is burdensome to submit the NSPIRES electronic cover page in time to have final data on the cover page but still get it signed in time to bind it into the hardcopy proposals.
- The only way to get the proposal number assigned by NSPIRES is to submit the electronic cover page.

RECOMMENDED the hardcopy is the official submission, needs original signature of authorizing official, can be finalized and bound without NSPIRES submission.

RECOMMENDED no NSPIRES cover page is required to be bound into the hardcopy proposal; however certain cover page information is required to be included on Page 2 of the hardcopy exactly as entered into NSPIRES (proposal title, PI and contact info, abstract, team members, & budget totals).

RECOMMENDED NSPIRES submission may be completed after hardcopy is finalized but still before the proposal deadline, NSPIRES submission does not have to be by same official that signed hardcopy proposal because it is not actually a legal proposal submission.

OPEN ISSUE how to get proposal number on proposal hardcopies, pending further information gathered from NRESS. See below.

E-2. Terminate submission of all paper proposals – Electronic submission only.

- Electronic only proposal submit through upload of PDF files just like ROSES.
- For practical reasons, would need to set a file size limit (say 20 MB) on proposal size; this significantly limits graphics.
- Without hardcopy submission, reviewers who prefer hardcopies will need to print their own; universal desire by proposers to be able to control quality of hardcopies themselves.

NOT RECOMMENDED. Reviewers need paper copies. Proposers want to be in control of quality of paper proposals. Proposers do not want to have file size limits on graphics.

E-3. Simplify/clarify/standardize the NSPIRES interface.

- Clarify NSPIRES flow: When print and sign (e.g. proposal number)? Who must submit vs sign? What are allowed uploads? Signing or amending certifications? Ignoring element checks?
- Remove budget from NSPIRES requirement.

RECOMMENDED: NSPIRES submission is not required until after hardcopy proposal is finalized (see E1) and that program specific questions must be scrubbed. See below.

E-4. Allow more time for formatting and delivery of documents.

- Delay paper copies to allow time for printing and binding, no original signatures, delayed due date for foreign letters.
- Reduce the number of copies of proposals.
- Time delay between NRESS submit and proposal delivery.
- This is the choice where NSPIRES submission is the actual proposal submission and hardcopy trails.

NOT RECOMMENDED: See E1.

E-5. Allow acknowledgement by Co-Is via NSPIRES.

- Allow Co-Is and other team members to acknowledge their participation through NSPIRES rather than submitting letters of endorsement or signed CVs.
- This does not show up on the NSPIRES cover page, however it can be included in the “master people log” excel spreadsheet that NRESS delivers following proposal submission; NRESS can identify any team members who did not acknowledge participation through NSPIRES.
- It is unclear at this date whether the PI can tell which team members have not acknowledged participation in NSPIRES.

OPEN ISSUE: Gather additional information from NRESS. See below.

Result of NSPIRES interface simplification study:

- RECOMMENDED that the hardcopy proposal is the official proposal. The NSPIRES submission is “only” a data dump; it is not a proposal submission. The NSPIRES submission is REQUIRED to be the same as the hardcopy submission.
- The hardcopy submission requires the signature of an official authorized to submit proposals for the organization. One original proposal must contain an original signature. This is the only original signature required. RECOMMENDED that all other signatures, including letters of endorsement, may be copies of signatures. RECOMMENDED that the AOR that submits the NSPIRES data is not required to be the same AOR that signed the hardcopy proposal. This is okay because the NSPIRES submission is not the official proposal submission.
- The official list of team members must be specified in the hardcopy proposal and duplicated in NSPIRES. In particular, the list of Co-Is must be identical in the two places. Which one is official if they differ? RECOMMENDED that the hardcopy list be official. For consistency, the hardcopy is always official.
- Need to determine the correct list of possible team member roles to offer in NSPIRES. This list needs to be mirrored in AO language. Currently there is no correlation between the two. See Appendix B for RECOMMENDED list.
- How will team members acknowledge their participation in the proposal? Currently require signed letters of acknowledgement in hardcopy proposal. RECOMMENDED that we use the capability in NSPIRES for some team members (e.g. Co-Is) to indicate electronically their acknowledgement of participation. The PI can tell which team members have acknowledged participation in the proposal via NSPIRES. This should be used in lieu of the written letters of acknowledgement in the proposal. Note that this is one set of NSPIRES data that is not duplicated in the proposal. Note also that we will

need to get this acknowledgement reported in the Master People Report or we (NASA, reviewers) cannot tell which team members have acknowledged.

- RECOMMENDED that the hardcopy proposal must duplicate certain information from the NSPIRES submission. This data is required to be identical between the hardcopy proposal and the NSPIRES submission. The data that must be duplicated in the hardcopy proposal includes Sections I, II, III, IV, V with signature, VI, VII, IX. This excludes Sections VIII, X; Sections VIII and X of the NSPIRES submission is another set of NSPIRES data that is not duplicated in the proposal.
- The proposing community has identified problems with generating final proposals where NSPIRES information must be submitted first, then printed out and attached to proposal, then print hardcopy proposal, then submit hardcopy proposal. New flow is that hardcopy proposal is finalized and printed, then NSPIRES information is finalized exactly like hardcopy proposal, then both are submitted by due date.
- OPEN ISSUE is that hardcopy proposals do not include proposal number. Proposal number is assigned automatically upon NSPIRES submission.
- ~~RECOMMENDED new requirement for proposers to number the proposal copies (1-55, handwritten is okay).~~
- OPEN ISSUE: Can NRESS place stickers with both proposal number and copy number?

F. Cost and Schedule Technical Data

F-1. Have an AO cost simplification workshop.

- Hold Cost Workshop
RECOMMENDED and DONE. April 17 @ DFW

ALL OTHER QUESTIONS DEFERRED UNTIL AFTER AO COST AND SCHEDULE LESSONS LEARNED WORKSHOP

F-1A. Reduce or eliminate cost data from Step 1 proposals.

- Technical, management, and schedule would be emphasized.
- Cost estimates would be developed by evaluation team.
NOT RECOMMENDED

F-2. Eliminate funding profile in AO.

- Funding profile is the anticipated year-by-year planning budget.
- Funding profile will not be the actual available budget when those years are executed.
- Constraining proposers to funding profile means that NASA will never see the optimal budget.
- During phase A the project team should assess the impact of schedule variations and sub-optimal funding profiles.
RECOMMENDED

F-3. Consider RY vs FY?

- Require cost proposals in RY or FY.
CONSENSUS RY

- Calculate cost cap in RY or FY.

RECOMMENDED FY, OPTION A (See Appendix A)

F-4. Get real about Impact of Inflation/Allow Forward Pricing vs Inflation Table.

- What deindexing numbers should be used to convert – proposer’ approved inflation rates or NASA New Start Index (NNSI) inflation table published in AO?

RECOMMENDED: Use language that says proposer uses own approved rates, only use NNSI rates if proposer does not have approved rates.

F-5. Request cost data and confidence commensurate with detail of evaluation.

- Complexity and requirements of cost section should be scalable and should consider size and complexity of the proposed project.
- Level of cost detail should be commensurate with Pre-Phase A project.
- Too much detail gives false confidence and implies false level of fidelity; more data is not necessarily better data.

RECOMMENDED

F-5A. Clarify cost compliance items.

- What are actually required, e.g. table, level of detail, backups, etc.?

RECOMMENDED

F-5B. Apply a page limit to cost section.

- Ensures that only useful and desired information is submitted.
- Prevents proposers from feeling obligated to “carpet bomb” the Government with cost proposal data.
- Is there a FAR requirement that governs this?

OPEN ISSUE

F-6. Provide clear budget templates and instructions on how to document costs.

- Standardize the AO cost tables using NPR 7120.5D WBS rather than Tables B2 and B3.

RECOMMENDED

- Reduce cost to a single table.

NOT RECOMMENDED: More than one table is needed. Need budget by WBS vs FY and by Phase vs FY. Possibly need WBS vs Phase.

- Maintain Table B5.

RECOMMENDED

F-6A. Delete requirement to split costs into recurring/nonrecurring.

- Concept useful when building multiple copies of a single item; concept not useful for typical AO proposed projects.
- Definition of recurring is ambiguous.
- Cost evaluators agree that this is not a useful distinction for evaluating cost proposals.

RECOMMENDED

F-6B. Clarify how reserves should be reported so that models can treat them correctly.

- There is concern that reserves are double counted when cost models are run by cost evaluators.

CONSENSUS APPROVAL

F-6C. Eliminate “Cost by Organization” tables.

- Require information only in discussion.
- Helps to interpret work responsibilities. Data also provided by SOW and by organization chart.

OPEN ISSUE. Need further input from cost evaluators.

F-6D. Add table of proposal participants.

- Primary purpose of proposal is to avoid organizational conflicts of interest in reviewing proposals. Secondary purpose is to provide material for evaluation and selection.
- Columns are “organization,” “role,” and “total cost/budget.”
- Table must include all organizations named in submitted proposal. Divide organizations into three sections: (i) major partners, (ii) science only, non-hardware partners, and (iii) vendors and suppliers.
- Major partners must be defined. Organizations responsible for providing project management, system engineering, major hardware elements, science instruments, integration and test, mission operations, and other major partners as defined by the proposer.

RECOMMENDED

F-7. Delete requirement for Phase A Statement of Work (SOW) proposal appendix.

- Phase A SOW not required for TMC evaluation of Step 1 proposal.
- SOWs (including Phase A products and delivery schedule) cause proposers extra burden.
- Having the Phase A SOW in the proposal and evaluated by TMC speeds up the awarding of the Phase A contract. Otherwise the Program Office would have to solicit and evaluate the Phase A SOW after selection before Phase A contract can be awarded.
- Letter contracts cannot be issued to start Phase A work before the contract is awarded. Letter contracts are not allowed at NASA above cutoff value (\$50K?). This NASA policy is in response to historical abuses. This cannot be waived by SMD, unlikely to be waived by Procurement.
- Put a page limit on the Phase A SOW to limit the amount of technical detail.
- If delete SOW, then need a description of proposed Phase A deliverables and schedule.

RECOMMENDED: Delete the proposal requirement for the Phase A SOW, while maintaining an appropriate mention of the Phase A SOW in the AO so that proposal teams will be aware of the timely need for this upon selection.

F-8. Eliminate optional cost information (e.g. MEL, WBS, WBS Dictionary, BOE details, etc).

- Decide what is needed for a Pre-Phase A proposal to enable appropriate cost evaluation, and require that and only that.

RECOMMENDED but MEL and BOE are not to be eliminated; using Standard WBS allows deletion of WBS Dictionary. Proposal describes deltas to standard WBS dictionary.

RECOMMENDED: Provide standard format (columns) for MEL.

F-9. Eliminate S Curves for Proposals.

- It is not possible to specify uncertainties on cost estimates when <<1% of total cost has been spent on maturing design.
- Eliminate language from AO that requires proposers to calculate S-curves or other statistical assessments of their cost risk.
- Pre-Phase A projects are too immature in design for this to have any value (uncertainty exceeds data).

RECOMMENDED

F-10. All Costs submitted by single EXCEL file.

- Allow the electronic cost tables to be submitted as multiple linked EXCEL worksheets in a single excel file rather than requiring separate, unlinked excel files.

RECOMMENDED

F-11. Dictate cost estimating methodologies expected.

- Provide Cost Tools for proposers to use.
- Define what counts as a valid cost estimation.

NOT RECOMMENDED

F-12. Define cost terminology and be consistent in usage

- Provide a cost terminology glossary in the AO to ensure uniform understanding.

RECOMMENDED

F-13. Delete Table B8.

- Table B8 requires proposers to estimate FTE/WYE and direct costs for all categories of worker (civil servant, FFRDC, contractor, etc.) for every proposing institution.
- SMD does not use this data, and it is not used for TMC evaluation. It was requested in the SMEX AO by PA&E.

RECOMMENDED

F-14. Reduce Schedule Requirements (AI&T Flows).

- Discussion in the proposal is more helpful than detailed flows
- Description of the verification approach, the level of integration that the verification takes place and the plan for environmental test (levels, burn-in hours, thermal cycles, subsystem thermal soak, etc) are necessary to estimate development risk and AI&T schedule and cost.

RECOMMENDED that proposal required to include flow diagram and key tests in I&T. No schedule per se is required, but a description of I&T philosophy is required.

F-15. Clarify level of Schedule Details needed.

- Limit/specify this as one foldout.

- Is it possible to specify critical path at this stage of maturity?

RECOMMENDED on one foldout page for schedule

- Schedule should be WBS-based
- Schedule should include a specific set of elements depending on the nature of the proposal, e.g. major milestones, 7120.5D defined milestones, major deliverables, long lead items, low TRL items, unique or critical items, S/W builds, descope points and parallel development, funded schedule reserves, etc.

RECOMMENDED

F-15A. Graphic schedule should be accompanied by a table.

- Table shows start/stop dates for major schedule elements. Eliminates need for reviewers to measure dates from figure with rulers.
- Level of schedule detail restricted to month and year (not day); lower level schedule projections are unrealistic at this stage.

RECOMMENDED

F-15B. Do not specify minimum required cost reserves in AO.

- Reserves are less of a driver than the conservatism of the base cost estimate.

NOT RECOMMENDED

- Specify cost cap as a range and not a single value.

NOT RECOMMENDED

- Cost/schedule overrun study shows no correlation between amount of reserves held pre-confirmation and the probability or size of overruns.

- Specify minimum cost reserves for Phase A-D. State that proposal should include appropriate level of reserves, which may be more than minimum specified. Specify recommended level of reserves as well.

- No required minimum reserve for Phase E.

RECOMMENDED. Minimum reserves are 20%, and recommended reserves are 25%, but proposal must justify actual cost reserve level.

F-15C. Keep funded schedule reserves separate from other cost reserves.

- Do not repeat use of SMEX AO language.
- Cost reserves should be less than 30% if funded schedule reserves are shown separately.

RECOMMENDED

F-15D. Use Microsoft Project for schedule submissions

NOT RECOMMENDED

G. AO Process

G-1. Increase lead time for proposing.

- Early schedule announcement for AO and stick to it (believable schedule is most important) – also need cost caps and other parameters (need early parameters)
- Announce major surprises ASAP, don't wait for final AO
- Provide early warning of coming AO's (up to 6 months of lead)

RECOMMENDED and DONE via NSPIRES announcement/SARA posting

G-2. Science first (Step 0 / science gate / three step / etc.).

- A large number of participants and respondents suggested that NASA should reduce the number of organizations submitting full proposals by have a “science only” step before the current Step 1 proposal.
- Prior experience with SMEX 1999 was not successful.
- Analysis of data from recent AO competitions indicates that approximately half of all proposals have VG or better science grades on Form A, indicating that a factor of 2 reduction can be easily achieved.

BEYOND SCOPE

G-3. Constrain the AO requests in science area.

- Constrain the AO to what type of mission is really wanted; pre-select the science area like New Frontiers.
- Limit who can propose to a given AO.

BEYOND SCOPE

G-4. Cost caps should make sense and be justifiable and not arbitrary and provide best science yield.

- Realistic understanding of inflation in setting cost caps.

BEYOND SCOPE

G-5. Extended Phase A.

- Well funded Phase A and B to maximize mission success.

BEYOND SCOPE

G-6. Eliminate competitive Phase A.

- Make Step 2 fall short of full Phase A requirements, quicker and cheaper.
- More interaction of cost teams during Phase A, like a NAR

BEYOND SCOPE

G-7. Shorten response time from AO release to 45 days.

NOT RECOMMENDED

G-8. Realistic prediction of selection dates.

- Nail down date when a selection will be made.

RECOMMENDED status quo

H. Operational Improvements**H-1. (a) Incorporate lessons learned from FAQ from AO to AO. (b) Incorporate Steering Committee findings into future AOs.**

- Revise Standard AO after each AO process to continue to improve clarity, reduce ambiguity, and reduce accidental requirements.

RECOMMENDED

H-2. Establish email exploder for AO competitions, e.g. changes to FAQ.

- Allow community to subscribe to a list-serve and receive notices whenever there is an announcement, whenever there is a new FAQ released, etc.

RECOMMENDED

H-3. Improved response to questions during AO period.

- Need faster turnaround than occurred with SMEX AO.
- Need to manage process better when organizations other than SMD are being relied upon to provide answers.

RECOMMENDED

H-4. One time approval of Standard AO.

- Obtain full concurrence, internal and external, on Standard AO. Then future AO concurrence can be limited to those parts of the AO that vary from AO to AO.

RECOMMENDED

J. Evaluation Process**J-1. Educate review panel on what AO requests and requires.**

- Set review panel level of expectation to a level of detail appropriate for a Pre-Phase A project.

RECOMMENDED status quo.

J-2. Science Panel Consistency from AO to AO.

- Allow "heritage/results" from prior reviews to be presented.
- There is nothing that prevents a proposer from citing their past ratings; however the current review panel is not required to ensure that its findings are consistent with a previous evaluation panel's review of a previous proposal.
- Procurement regulations require that each proposal stands (or falls) on its own merits.

NOT RECOMMENDED because it is ILLEGAL.

J-3. Allow interchange with Step 1 proposers.

- Allow feedback on major weaknesses during step 1 evaluation – must be fair, practical, and legal.
- Allow communication between proposers and evaluation team before Categorization.
- Primary purpose is to provide additional transparency to review process.
- Secondary purpose is to provide assurance against certain types of errors.
- Consensus by evaluators that such interaction will not affect/improve evaluations, However major downside is the extra time and effort that it will take.
- Some experience from SEBs indicates that this is not necessarily a practical idea when there are tens of proposals.
- Discussions occur when a proposer is asked for information that supplements the proposal in any way. Once discussions have been entered into, the proposer is allowed a reasonable period of time (30 days) to respond to the request for additional information. The proposer can not be limited to only providing additional information in response to the question; rather the proposer can revise and improve the proposal in any way that he

wishes. The second proposal is referred to as a “best and final” proposal. This is a common process when evaluating proposals submitted in response to a RFP for services.

- If discussions are held with one proposer, they should be held with all proposers. Claims of unfair discussions are among the most common causes of selection protests.

- Clarifications occur when the proposer is asked to clarify a point in the proposal without extending the proposal or introducing additional information. Clarifications can be requested without entering into discussions.

- The following process has been considered by the AO Simplification Team:

- After major weaknesses are established, the major weakness is communicated to the PI via email (or some alternate method). The date can be set well in advance based on the planning for the peer reviews. A proposal clarification is requested from the PI.
- The form of the clarification is strictly limited to a few responses, including (i) identification of the locations in the proposal (page, section, line) where the major weakness is addressed, (ii) noting that the major weakness is not addressed in the proposal, (iii) informing the reviewers that the major weakness is invalidated by information that is common knowledge or state-of-the-art and is therefore not included in the proposal.
- PIs with no major weaknesses receive an email informing them that they have no major weaknesses.
- The PI has 24 hours to respond to the request for clarification. Only clarifications are allowed. Any response that goes beyond a clarification will be deleted and will not be shown to the peer review (there will need to be a gatekeeper who is not a reviewer).
- The peer review will then consider the response and determine whether the major weakness should be modified. Final ratings are determined after this consideration.

- This may add a day to the peer review, or it may take place in parallel with other peer review activities. This can only be done if all major weaknesses are available in advance of the end of the peer review.

OPEN ISSUE (leaning toward RECOMMENDED) for TMC reviews (Form C) because (i) the format of the TMC review lends itself to early identification of major weaknesses and (ii) TMC major weaknesses are susceptible to clarification because they are technical in nature rather than subjective.

NOT RECOMMENDED for science merit (Form A) because (i) the format of the science peer review does not lend itself to early identification of major weaknesses and (ii) science merit major weaknesses are not susceptible to clarification because they are often subjective.

NOT RECOMMENDED for science implementation merit (Form B) because the format of the science peer review does not lend itself to early identification of major weaknesses; it is possible that science implementation merit major weaknesses are susceptible to clarification because they are technical in nature rather than subjective.

J-4. Consider NOT reporting Minor Weaknesses or Minor Strengths to PIs with those classifications but as comments.

- Do not change Form C. Make sure wording of minor strengths and weaknesses is clear as to whether it is a strength or weakness.
- For debriefing of TMC reviews, call them all comments in the debriefing material.
- Emphasize that even if all comments are addressed, it would not change the evaluation, categorization, or selection of the proposal.
- Emphasize that comments are not expected to be addressed in a Pre-Phase A project, but they are expected in a Step 1 proposal.

RECOMMENDED

J-5. Give points/credit for relevant past experience and performance.

- What role for past performance in step 1 evaluation?

NOT RECOMMENDED for Step 1 proposal (impractical because there are too many proposals and not enough time).

RECOMMENDED for Step 2 proposal, status quo.

J-6. Better articulate why selected or why not-selected.

RECOMMENDED appropriate information is in the Selection Statement and may be shared with proposers during debriefing, status quo.

J-7. Have more science reviewers per proposal to decrease small number statistics.

OPEN ISSUE good in principle but not practical; it is hard enough getting reviewers now because of conflicts-of-interest.

J-8. All CSR requirements must be in the CSR Guidelines.

- CSR Guidelines cannot incorporate AO requirements by reference.

RECOMMENDED

APPENDIX A: Cost cap in RY or FY

1. There is general consensus that the proposal itself is the RY proposed budget. There are several reasons why this is a good idea including (a) this is what the NASA available budget is and (b) this is what any contract will reference.
2. The use of a FY budget profile is for convenience only. It is used by cost modelers so that they do not have to include inflation and/or start year in their models.
3. The conversion from RY to FY can be done in several ways. Each proposer usually has a set of approved inflation rates. These rates may differ for different components of the budget (e.g. labor, materials, overhead, etc.). Or NASA can set a constant inflation rate to be arbitrarily applied. NASA's preferred set of inflation rates is the NASA New Start Index (NNSI).
4. Proposers are required (by procurement regulations) to use their own approved inflation rates when converting between RY and FY. That is why all AOs must include the words, "Use the NNSI rates only when you don't have approved rates." Approved rates are generally higher than the NNSI. The NNSI is generally higher than the OMB rates.
5. The AO cost cap (for AO compliance) can be set by either integrating the RY proposed budget profile or the FY proposed budget profile. For projects that have similar start dates and similar budget profiles, it does not matter much which cost cap is used. However it matters a lot when projects have different start dates (due, e.g. to different launch dates) or different budget profiles (due, e.g., to long cruise times). A two year delay in launch date could be a 6% difference in RY proposed costs that have the same FY proposed costs (2 years at 3 %/yr). A five year cruise could be a 3% difference in RY proposed costs that have the same FY proposed costs (5 years at 3%/year on 20% of the budget).

OPTION A: RECOMMENDED

- Proposal is in RY dollars (budget profile and total cost)
- Proposer uses approved rates to derive a FY budget profile and total cost
- TMC uses FY budget profile for cost analysis
- SMD uses FY total cost to cost cap compliance

Pro: Emphasizes RY proposal, use of approved rates

Pro: Familiar way of setting cost caps - does not perturb the system and change the "level" playing field.

Con: Conversion RY to FY is complex, non-transparent

Con: Sticker shock when cost cap converted to RY for reporting purposes.

OPTION B:

- Proposal is in RY dollars (budget profile and total cost)
- TMC uses NNSI (published in AO) to derive a fictitious FY budget profile and total cost

- TMC uses FY budget profile for cost analysis
 - SMD uses FY total cost to cost cap compliance
- Pro: Conversion RY to FY is simple
 Con: FY budget profile is fictitious and so is FY total cost used for cost cap compliance

OPTION C – Current Practice:

- Proposal is in FY dollars (budget profile and total cost)
 - Proposer uses approved rates to derive a RY budget profile and total cost
 - TMC uses FY budget profile for cost analysis
 - SMD uses FY total cost to cost cap compliance
- Pro: Simple for NASA to use in evaluation and compliance
 Con: Proposal in FY but contract and project will be in RY, additional negotiations necessary to set RY cost cap in contract

Appendix B: Allowable team member roles in NSPIRES

	RECOMMENDED?	In past AOs
Principal Investigator	Yes	Yes
Co-investigator	Yes	Yes
Co-I/Institutional PI	Yes	
Collaborator	Yes	Yes
Project Manager	Yes	
Industry Partner	Yes	Yes
International Partner	Yes	
Other Professional	Yes	Yes
Postdoctoral Associate	Yes	Yes
Graduate/Undergraduate Student	Yes	Yes
Lead Representative		Yes
Co-I/Science PI		
Co-I/Co-PI (non-US organization only)		
Science Partner		
Educational Partner		
Teaming Partner		Yes
Program Manager		
Project Lead		
Project Co-lead		
Research Lead		
Mission Manager		
Associate Director		
Advisor		