

**Geospace Dynamics Constellation
Competitive Phase A
Frequently Asked Questions**

Categories of Questions

Science (S)
Technology (T)
Management and Schedule (M)
Cost (C)
Proposal Evaluation (E)
Proposal Submission (P)
Other (O)

| Change Log | | |
|-------------------|-------------|---------------------------------------------------------------------------------|
| Rev. | Date | Description of Changes |
| 01 | 6/27/22 | Added S-1, M-1 through -4, C-1, E-1 through -5, P-1 through -5, O-1 through -2. |
| 02 | 6/28/22 | Added O-3 |
| 03 | 7/22/22 | Added S-2, T-1, M-5, C-2 through -4, P-6, O-4. |

Science

S-1. Is there any expectation or prescription on investigation activities between the submission of the IIR and the downselection?

For investigation activities, no.

For IISs, investigations may be requested to provide additional accommodation information as technical input to the GDC Project Office, and may receive a request for clarification on the IIR. (Any clarification period will be announced sufficiently ahead of time for investigations to schedule time for their team to respond.)

S-2. Three GDC instruments have been selected, but their capabilities have not been publicly released. This leads to three specific questions:

- 1. Will NASA release these capabilities for use by the IISs?**
- 2. Can the IISs use their capabilities to enhance the proposed science investigation?**
- 3. If the capabilities are not released, what should the IISs assume in terms of other GDC instruments?**

As stated in the Guidelines and Criteria, on page IIS-2, "[U]nless stated otherwise, the PEA's guidelines and requirements that are not superseded by this document are applied to the IIRs. Unless specifically called for, no information of plans outside of the scope of the PEA is required in the IIR."

NASA does not intend to release the instrument capabilities for use by the IIRs, and a study's requirement for GDC capabilities will be assessed by the standards of the PEA (except where superseded by the Guidelines and Criteria or accompanying material).

This leads to the follow answers to the three specific questions:

1. No.
2. As stated above, IIRs will be evaluated by the standards of the PEA (except where superseded).
3. As stated above, IIRs will be evaluated by the standards of the PEA (except where superseded).

Technology

T-1. Can IISs assume the use of a GDC-provided capability to measure the spacecraft surface potential?

As stated in the Guidelines and Criteria, on page IIS-2, "[U]nless stated otherwise, the PEA's guidelines and requirements that are not superseded by this document are applied to the IIRs."

Management and Schedule

M-1. The *Guidelines and Criteria*, Requirement IIR-4, states that "The [IIR] shall include a section labeled 'Investigation Structure and Composition' that describes the investigation management structure, the table of participating organizations, and the science team." If an IIR does not make any changes in the management structure or composition, can it state "No changes to the investigation structure or composition have been made from the Step-1 proposal." and refer to the respective sections of the Step-1 proposal for each listed item?

Yes.

M-2. The *Guidelines and Criteria*, Requirement IIR-1, states that the IIR shall include "updated" schedule, budget, and Instrument Accommodation files. If the IIR does not modify these files, can the "Modifications to the Investigation" section state "No changes to the investigation structure or composition have been made from the Step-1 proposal." and refer to the respective sections of the Step-1 proposal for each listed item?

Yes.

M-3. How should IIRs account for the length and cost of the competitive Phase A in the schedule and budget?

Studies should not change their schedule for the purpose of accommodating the time of the competitive Phase A. The evaluation will not penalize IIRs due to time lost (relative to the Step-1 proposal's schedule) due to this study and evaluation period.

Studies should not change their budget for the purpose of accommodating the time and budget of the competitive Phase A. The evaluation will not penalize IIRs due to the time lost (relative to the Step-1 proposal's schedule) or change in budgeting due to this study and evaluation period.

M-4. Can investigations assume that the ISRR will be held approximately eight months after downselection (Dec 31st, 2022)?

For scheduling in the IIRs, refer to Q&A M-2.

For scheduling of downselected investigations, schedules will be negotiated with the GDC Project Office as part of the initial contracting process.

M-5. The SALMON-3 AO, Requirement B-34, states that "A project schedule foldout(s) covering all phases of the investigation shall be provided to at least WBS level 3, except for where... " For this schedule, what is meant by WBS 3, and does that mean going down to mission level 4?

The requirement is given in terms of WBS levels, which are defined by the WBS Handbook (located in the Program Library). WBS level 3 under the payload WBS level 2 (05) is where individual payload developments (e.g., GDC instruments) reside (and flow down from). WBS level 3 under the science WBS level 2 (04) is where individual investigation teams reside (and flow down from).

As an extremely simplified example for the GDC Phase A, assume the instrument Helio, which is led by M.W. Jackson College and supported by Durand University. The Helio instrument would start at *05.01*, the Helio main sensor would be *05.01.01*, the Helio electronics box would be *05.01.02*, the Helio science would start at *04.01*, the Jackson science would be *04.01.01*, and the Durand science would be *04.01.02*.

Cost

C-1. Should the NASA-provided Phase A funding be included in the cost tables in the Bridge Contract?

Yes.

C-2. How should changes to the investigation budget be identified and discussed in the IIR?

There are three parts of the IIR that are involved in identifying and discussing changes to the investigation budget:

1. **Modifications to the Investigation:** This section identifies the modifications made to the Step-1 proposal and the resulting changes to the investigation budget.
2. **Resolution of Investigation Deficiencies and Risks:** This section discusses the specific resolutions that lead to budget changes, including the justification for those budget changes.
3. **Budget sheets:** The updated budget sheets should show modifications from the Step-1 proposal in each cell. If a cell is modified by more than one modification to the investigation, the budget sheets only show the final, fully updated numbers.

C-3. The Guidelines and Criteria (Section I, Investigation Implementation studies) states that "The implementation studies are intended to provide NASA with more definitive information regarding the ability of each investigation to complete its science objectives and deliver its instrument within cost and on schedule, and of the instrument to provide its measurement capability without driving significant cost increases in the spacecraft development or in their investigation." Does that mean that investigation budget changes in the IIR must be below some level of significance?

That language in the Guidelines and Criteria is referring to cost growth of investigations after down-selection. As stated in Section II, NASA expects that resolving identified deficiencies and risks may require budget changes.

Investigations are expected to resolve their deficiencies and risks in the most cost-effective, resource-efficient manner.

C-4. The SALMON-3 AO, Requirement B-58, states that "Tables B3a and B3b shall identify the proposed cost required in each mission phase and in each fiscal year." Does this cost phasing refer to the GDC mission or the proposed investigation?

The proposed investigation, per SALMON-3 AO, Requirement B-58 ("[...] Tables B3a and B3b shall contain cost data relevant to the PI-Managed Mission Cost."); SALMON-3 AO, Section 5.1.4; and PEA, Section 5.5.1.

Proposal Evaluation

- E-1. The *Guidelines and Criteria* states that "NASA does not intend to re-review the Step-1 proposal. Any new deficiencies, risks, and strengths will be identified as part of the assessment of the IIR's modification, clarification, and/or additional support of the investigation design and implementation." Does this mean that no new deficiencies, risks, and strengths will be identified for the Step-1 proposal sections that are not modified, updated, replaced, or referenced by the IIR?**

Yes, for modifications, updates, and replacements.

No, for references included in the IIR. For instance, if Section "A" of the proposal is referenced as part of the IIR's addressing Section "B", a new deficiency or risk could be identified if the Section A material is deemed to not adequately support any claims or assertions regarding Section B."

- E-2. The *Guidelines and Criteria* states that "NASA expects that the IIS will focus on resolving the more significant identified deficiencies and risks, and does not expect that the IIS will resolve all minor findings identified during the Step-1 evaluation process." Will the IIR receive a major weakness just because a minor finding is not addressed in the IIR?**

No. (See Question E-1 regarding unchanged Step-1 proposal material and new deficiencies, risks, and strengths.)

- E-3. The *Guidelines and Criteria* states that "NASA expects that the IIS will focus on resolving the more significant identified deficiencies and risks, and does not expect that the IIS will resolve all minor findings identified during the Step-1 evaluation process." Who decides which minor findings, if any, are addressed in the IIS?**

The Principal Investigator.

- E-4. In SMD's two-step mission solicitations, TMC Risk ratings for Concept Study Reports usually consider Minor Weaknesses. Will the TMC Risk rating for the IIRs consider Minor Weaknesses?**

No.

- E-5. Will the evaluation panel consist of reviewers that were not involved in the Step-1 proposal review?**

The Guidelines and Criteria states, on page IIS-1, that “NASA will assemble an evaluation team of scientific and technical peers to consider each IIR carefully, *with an appropriate amount of overlap with the Step-1 evaluation team*” [emphasis added]. NASA does not guarantee that every Phase A evaluation team member will have been part of the Step-1 evaluation team.

Proposal Submission

P-1. How are the proposal Potential Major Weaknesses and the PI responses related to the IIR? If they are to be included, do they count against any page limit?

The Potential Major Weakness (PMW) response was a clarification and update to the proposal. The response should be included as part of the Step-1 proposal in the IIR, with markings to show any modifications/replacements made during the IIS.

P-2. In the Guidelines and Criteria, page IIS-4, “Modifications to the Investigation” section is not expected to exceed one page in length. However, there is a statement on the page IIS-5 stating that this section shall not exceed two pages in length. Which restriction is the correct page limit?

These two statements are not in conflict. The page limit is two pages. The expectation of one page was given so that a team did not think there was an expectation that each IIR would require the full two pages.

P-3. The Guidelines and Criteria states that the IIR must include a redacted version of the Step-1 proposal. The PEA requires marking of export-controlled material but not their redaction. Was the Guidelines and Criteria language intended to be a strengthening of the PEA marking requirement?

Yes. The redaction should be opaque boxes over the relevant material. The language has been clarified in Rev 2 of the document.

P-4. The Guidelines and Criteria required marking of changes in the Step-1 proposal. Is that for both the redacted and unredacted versions?

Yes.

P-5. What is the IIR due date?

The IIR due date is given in the Guidelines and Criteria, Requirement IIR-2 (first amended in Rev 2).

P-6. The Guidelines and Criteria, in Requirement IIR-2, states that modifications to proposal fold-outs must be within the page limit, except for the "full, updated version" that is outside of the page limit. How do fold-outs count against the page limit? What is the "full, updated version" of a fold-out?

For modifications to the fold-out included in the "Resolution of Investigation Deficiencies and Risks" section of the IIR, the Guidelines and Criteria specifies that they "shall be in either text form (e.g., "change the value in Cell D4 from XX to YY") or as an image (i.e., screen capture of the modified part of the fold-out)". Further, fold-out modifications that do not fit within the 8.5 x 11 inch format will count against the page limit per PEA Requirement B-4 (i.e., by page-equivalent area).

The "full, updated version" of a fold-out is the full version of a fold-out with all updates made to (and marked on) it. This version is outside of the page limit of the "Resolution of Investigation Deficiencies and Risks" section. For instance, if an IIR resolves one risk with a modification to the left-hand side of Fold-Out 1 and a second risk with a modification to the right-hand side of Fold-Out 1, then the full, updated version would be the complete Fold-Out 1 with the left- and right-hand side modifications incorporated and marked.

Other

O-1. The Guidelines and Criteria contained some typographic issues. They are as follows:

- Requirements IIR-1 and IIR-2 described page limits regarding sections differently.

These typographic issues have been fixed.

O-2. The Guidelines and Criteria, Requirement IIR-2, states that "[t]he modified part of a fold-out or a new fold-out will be counted against the IIR page limit". Does this mean that only the modification itself counts against the page limit? What if the "Resolution of Investigation Deficiencies and Risks" section includes a larger part of the fold-out in addition to the modification?

The "Resolution of Investigation Deficiencies and Risks" section is page-limited, per Requirement IIR-2. This is true regardless of what material is included (e.g., unmodified quote of Step-1 proposal text, unmodified capture of Step-1 proposal fold-out, modification to Step-1 proposal fold-out).

All modifications to fold-outs must be captured in this IIR section, per Requirement IIR-2.

IIRs must adhere to these parallel, complementary requirements.

O-3. The Guidelines and Criteria do not mention travel and the Phase A contracts specify that travel is not expected. Can a Phase A team include travel as part of their study activities with sufficient justification?

Travel is not prohibited, but needs to be included in the study team's proposal submitted to the Program Office. PIs that wish to include it should contact the LWS Program Office.

O-4. Is there any expectation or prescription on investigation activities during the bridge phase for downselected investigations?

The bridge phase will include integration into the GDC project and investigation-specific work. NASA does not prescribe the investigation-specific work to be executed.