

## MIDEX 5/6 Downselect Q&A

Last updated: 28 May 2002  
17 May 2002

Updated Question 11  
Questions 1-11, Information A-D

1. Will the Phase A teams receive the full Phase A allotment of money up front?

Yes.

2. Can the Pre-Contract Cost Letter have an effective date a few days before the Kick Off meeting?

At this time that is our plan.

3. If the Pre-Contract Cost Letter can have an effective date that is before the Kick Off meeting, then is it acceptable to spend Phase A money on travel to support the meeting?

Yes.

4. What is the website for posting Answers to our Questions?

<http://spacescience.nasa.gov/codesr/midex/>

5. Where can I get additional information on IT Security?

NPG 2810 is available from the NASA Online Directives Information System (NODIS) at <http://nodis3.gsfc.nasa.gov/>.

6. After Phase A submittal, there is a Site Visit and questions to answer. In the past there was also a Science Presentation to Dr. Weiler at HQ. Is that Science Presentation required for this Phase A?

All PI's will be invited to NASA HQ to brief Dr. Weiler on the science value of their proposed investigation. It is anticipated that these briefings will be in March 2003.

7. Should each team plan to save money from their Phase A allotment to cover the Site Visit, Questions, and Presentation to Dr. Weiler? Could the end date of the Phase A contract be specified to be after the Site Visit/Questions/Presentation in order to cover these costs or does the contract have to end when the Phase A Report is due?

Phase A does not end until a downselect is made. The downselect confirms the downselected missions into Phase B. Therefore the site visit and science presentation to Dr. Weiler occur during Phase A.

8. Do teams need to reconfirm their launch cost estimates for the Phase A Report if there are no changes?

Each team will need to work with Darrell Foster, ELV technical contact at KSC, to obtain launch cost profile in RY\$ for their proposed launch date. They will also need to verify their launch vehicle performance to their proposed orbit. Any launch cost increases for unchanged requirements will not count against the cost cap. For more information, see Darrell Foster's presentation from the kickoff meeting.

9. Who pays for the Review Team Members time (Chairman and Team Members)? What if they are Civil Servants from a NASA Center or DOD?

Reviews are a required part of an Explorer project. The cost of reviews must be born within the project budget.

10. Will NASA impose any QA requirements on ESA beyond their own internal QA in order to fly on Shuttle and ISS?

MSFC and ESA will have to meet the over-arching NASA requirements for QA in order to fly on Shuttle and ISS. The Explorers Office will review the ESA QA requirements. It is anticipated that the ESA QA requirements will encompass NASA requirements. If so, the ESA requirements will be adequate and will meet the Explorers Office requirements.

In addition, all NASA projects are expected to meet NPG7120.5. This would apply to the MSFC involvement in EUSO.

11. Will NASA impose any QA requirements on parts, electronic components, boards, etc. which are contributed from ESA and other European sources?

The Mission Assurance Requirements (MAR) document was part of the MIDEX AO and will become a requirement for all Phase B/C/D/E contracts between the Explorers Office and the selected PI team(s). The resulting MAR/MAG document contained in the AO represents the most concise set of minimum requirements we can provide that is consistent with our past and present experience with MIDEX missions.

Blank electronic boards for flight are required to have representative coupon Destructive Physical Analysis by a certified testing facility. EEE Parts that meet GSFC 311-INST-001 Grade 3 requirements are acceptable regardless of point of origin. Any candidate parts that fall short of these requirements would be subject to decision of a Parts Control Board consisting of the application designer, PI Systems Engineering rep, PI EEE Parts rep, and GSFC parts advisor. The PCB will determine whether any significant parts requirements gap exists and how to close it, on a case-by-case basis. Printed Wiring Boards (PWBs) to be assembled into higher levels of assembly need to be inspected for proper workmanship and subjected to environmental and qualification testing at appropriate levels of assembly.

Workmanship requirements are described in the NASA SR&QA documents outlined in Rick Claffy's presentation titled "MIDEX Pre-Phase A Meetings; Safety, Reliability, and Quality Assurance Handout" dated April 2002 Teleconferences. The PI institution may be given some latitude in judging acceptability of minor discrepancies. Discrepancies having significant functional or reliability impacts must be discussed with the Explorers Program Office.

Since we view the MAR/MAG requirements/guidelines to be the minimum set of requirements based on our experience, and since we are still in an open competitive situation, it is not appropriate at this time to discuss selectively deleting or softening any of these requirements. PI teams should, however, be aware that we do anticipate that requirements compliance processes may differ among performing institutions. We are receptive to trade-offs based on best fits for the organizational cultures involved.

Existing agreements between NASA and ESA will be honored where corresponding compliance methods exist, provided that the difference of approach is the issue rather than the completeness of requirements compliance. For compliance items that are missing, some agreeable method of addressing the spirit of compliance, and of assessing resultant risks of less than full compliance, must be agreed upon.

**Information provided in response to questions during pre-contract discussions and debriefs:**

- A. Software IV&V is required by NPG 7120. Negotiations with the West Virginia facility must be conducted by each Team to determine the appropriate level of Software IV&V. Work through the Explorers Office at GSFC for initial contact with the West Virginia Facility to develop costs as part of NIAT. After negotiations are complete, direct discussions with the West Virginia facility will be required, but the Explorers Office Mission Manager must be kept apprised of the status of discussions, progress, and problems.
- B. The Peer Review Process is required for all MIDEX missions. Peer Reviews are detailed independent engineering design reviews focused at the Subsystem and box level, conducted informally with recognized internal or external experts having current detailed knowledge of the design specialties associated with the item under review. Primary design documentation, such as drawings, schematics, wiring diagrams, and analyses are the review vehicles. Its purpose is to substantiate a detailed understanding of the design's ability to meet all of its performance and interface requirements, to surface correctable problems early, and to ensure that best known practices are used to enhance robustness by avoiding known or predictable problems. Timely, accurate insight, through action item documentation and follow-up activities, is vital to the process. Action Items that cannot be resolved within the Peer Review Process should be raised to system-level reviews for closure. For each review a written record must be kept of time, place, and attendees. Peer Reviews can

be conducted at any time in a program, but can be especially useful prior to Major Reviews. PI and his team have full authority to select the reviewers for the Peer Reviews.

- C. Space operations management for NASA has been reorganized since the MIDEX AO was written. For the purpose of the MIDEX Phase A studies, the Space Operations Management Office (SOMO) has been replaced by the Space Communication and Data System (SCDS)

The Point of Contact for all SCDS information for these Phase A studies is Leslie Ambrose (301-286-7767; leslie.ambrose@gsfc.nasa.gov). She is responsible for technical support and responding to any pricing requests.

The MIDEX AO, Section 3.3.2, states: "Proposers are free to propose use of services from sources other than the NASA Space Operations Management Office (SOMO). Services provided by SOMO include support for communications, tracking, mission operations, flight dynamics, and data processing. Costs for such services, whether obtained from NASA or other sources, must be included in the cost estimate. Projects should conduct trade studies on the use of SOMO-provided services versus any proposed alternatives. Explorer projects may optionally conduct such studies in Phase A, but should conduct such studies no later than Phase B. In general, SOMO-provided services should be employed whenever they meet mission objectives at a life-cycle cost to the project or to OSS that is less than or equal to any proposed alternatives. SOMO will assist Explorer proposers in identifying SOMO services, prices, and cost trades. If OSS and SOMO agree that the proposed approach does not result in the lowest life cycle cost, OSS may direct the Explorer project to modify its approach."

The MIDEX AO, Section 3.5.1, states: "Where NASA-provided services are used, NASA Civil Service labor and supporting NASA Center infrastructure must be costed on a full cost accounting basis."

The Data Services provided by SCDS are the ground network (GN), deep space network (DSN), space network (SN, a.k.a. TDRSS), and wide area network (WAN). The costs of the Data Services for FY02 are documented in the SCDS catalog and ROMs for future years will be provided upon request.

The Mission Services that are provided by SCDS include Flight Ops, Data Processing and Flight Dynamics as well as End-to-End Mission Integration Services. Since Mission Services are unique to each project, ROMs will be developed based upon the project requirements.

- D. The Phase A Teams should talk to the Spectrum Manager (Frank Stocklin (301-286-6339)) to be sure that the proposed approach is feasible. Waivers for certain spectrum requests are normally not necessary during Phase A. The Teams should talk to the Spectrum Manager to be sure of this. He will know if their proposed approach

will require a waiver and when to apply for it. Also, it is the Project's responsibility to get a license in order to radiate.

NTIA is the organization that grants licenses at the National level. NTIA will only work with a government person since the frequency request will be for a government portion of the spectrum. If your Proposal Team includes a government organization, work it through that person. If not, then have the Explorers Office Mission Manager make that request.