

SpaceTech-REDDI-2016 Appendix F1

Frequently Asked Questions

Rev 5. Updated last on February 1, 2016

Q1: NASA states that the minimum requirements for reusability include: “Rocket propelled vehicles shall be capable of reusing a minimum of 80% of the vehicle’s mass (excluding propellants and other expendables) within 60 days between flights.” Is the demonstration of such a 60-day turnaround a constraint to a vehicle being used for a REDDI payload flight? Or is showing design intent for such capability sufficient?

A: A showing of design intent is sufficient to satisfy this requirement.

Q2: The announcement includes a Topic 2 to support introduction of new capabilities to suborbital/fractional gravity vehicles. Are end-users supposed to submit to Topic 2? Improvements to vehicles would seem to be the responsibility of vehicle developers. Do end users with investigations that meet NASA's wider priorities get extra evaluation points if their experiment also would use a new vehicle capability?

A: Proposals do not need to be submitted for both topics. You may submit a proposal to either topic or both. You may team with a flight provider on a proposal for topic 2, and/or 1. Proposals that have wide utility for infusion will benefit under the Evaluation Criterion #1 – Relevance to U.S. Space Exploration and Utilization, Sub-Criteria C – Infusion Potential. The focus for topic 2 is on providing capabilities for a range of payloads.

Q3: What specific data or paperwork beyond a formal price quote is needed to demonstrate that a flight provider is qualified?

A: You may use any flight provider that meets the qualifications in Section 1.2. In order to demonstrate that a flight provider is qualified, proposers must show that the vehicle has successfully flown as required in Section 1.2. The proposer must submit evidence that the flight provider is a U.S. commercial flight provider – licensed to operate commercial flights for compensation or hire in the U.S., or is in the process of being licensed to operate commercial flights for compensation or hire in the U.S.

Also, it is your responsibility to ensure that the proposed flight provider has the necessary certifications including (but not limited to) permits, licenses, or waivers for operation, as applicable, from the Federal Aviation Administration (FAA) or other governing authority for the flight activity and is capable of meeting your flight demonstration schedule within the timeframe specified in the solicitation. These certifications do not need to be included in the proposal.

Q4: Some larger or more sophisticated payloads may cost more to launch suborbitally than can be covered by the \$250K cap (payloads that require

multiple payload bays, or even securing a full flight). Is there any provision for larger suborbital flight experiments that might require more expensive launch accommodations that don't fit within the previous \$250K cap?

A: Proposers are still required to remain within the \$250K flight cost limit, regardless of payload integration or launch cost. There is no provision for more expensive vehicles, but cost sharing is allowed.

Q5: What is the cost share requirement for a commercial grant/cooperative agreement?

A: For a commercial firm seeking to receive a grant or cooperative agreement, cost sharing is required as defined in 14 CFR 1274, unless the commercial firm can demonstrate that they will not receive substantial compensating benefits for performance of the work. Commercial grants are required to have a 50/50 cost share.

Q6: Previous FO solicitations have awarded primarily microgravity experiments and non-balloon flights. Is there a preference for these types of proposals?

A: There is no preference for using any specific type of vehicle. The selection is based on the evaluation criteria set in the solicitation, which includes the appropriateness of the vehicle for the experiment, but no preference for a particular vehicle.

Q7: How many proposals were submitted/awarded in the recent two REDDI rounds (2014-F1 and 2015-F1)?

A: For REDDI 2014 F1, 19 proposals were received, 7 were selected, and 5 awards were made. For REDDI 2015 F1, 8 proposals were selected. The Flight Opportunities Program is in the process of making the awards at this time. The total number of proposals will be available after the awards are completed.

Q8: Can proposals cover the cost of more than one flight and/or vehicle type, i.e., two parabolic flights and a suborbital rocket flight? Or do you want to see completely separate proposals for each flight?

A: Proposals may include more than one vehicle type, provided the cost cap is met. It is up to the proposer to decide whether it is best to use one or more proposals. Proposals are considered independent of each other and must stand on their own merit (cannot depend on another proposal).

Q9: If we submit separate proposals for each type of flight, does this mean that we could be awarded up to \$250K for a parabolic campaign, and another \$250K for a suborbital rocket flight?

A: The cost cap applies to each proposal – if you have two separate proposals, each proposal would have the potential of being awarded up to \$300K (\$250K for the Flight Cost/\$50K for the Other Costs). In total, you could receive \$600K.

Q10: What is the NASA FOP internal directed process? I am a contractor at a NASA Research Center; how can I apply?

A: The internal directed process is for NASA Centers. For questions on the internal NASA directed process, please contact the Flight Opportunities Program directly.

Q11: The solicitation mentions that technologies that allow increased payload mass are not of interest. Would technologies that increase the available payload volume be considered?

A: Capability to increase volume or mass on a flight by itself is not sufficient. There must be a direct benefit to payload accommodation to improve or enable the use of vehicles for science research and/or technology flight test applications.

Q12: Can you provide a list of approved parabolic flight providers?

A: The Flight Opportunities Program cannot provide a list of approved flight providers. IDIQ-2 providers are listed on the FOP website along with selected flight providers from previous REDDI solicitations. There is no preference for which providers are to be used. The historical providers are not necessarily the only qualified providers available.

Q13: Is it ok to use a Canadian parabolic flight provider?

A: See answer to Question 3 above.

Q14: Would it be acceptable to submit a proposal to fly multiple times, specifically to fly early in the year, iterate the design, and re-fly later in the year (assuming this fits within the cost caps)?

A: Yes, all flights are not required to happen in a single campaign. The award period is one year, however, so the schedule should allow time for completion of the final report.

Q15: My technology was developed with NASA but no funds were exchanged. The presentation was very clear that NASA Centers are ineligible for this solicitation. I may still use the flight rig that was built at a NASA Center. May I apply to the REDDI 2016 F1 solicitation?

A: If you are a non-NASA entity and are proposing as the PI (even with NASA as a collaborator), then you are eligible to apply for the REDDI solicitation.

Q16: Does the REDDI 2016 F1 solicitation replace the former NASA FOP Announcement of Flight Opportunities (AFO) solicitation process where funds went from NASA to the flight provider directly?

A: Yes, the AFO process is no longer being used. In the REDDI solicitations, the funds go from NASA to the PI.

Q17: Can you submit a FO proposal for flight testing a technology you've proposed (say as part of an SBIR), but not yet been had awarded? For example, you proposed developing a technology in an SBIR Phase I, that you would like to be able to flight test either during or immediately after Phase I, but by the time the Flight Opportunities proposal is due, you have not been notified yet whether you have been awarded the SBIR Phase I or not.

A: The technology needs to be at TRL 4 at the time of submitting your proposal to the Flight Opportunities Program.

Q18: What is the best means of obtaining flight provider quotes? Where is the list of providers? Are prices already negotiated for flights and service types? How are joint flights (i.e. multiple payload flights) handled with regard to proposal and costs (i.e. sometimes providers will fly one or more payloads)?

A: The PI is responsible for negotiations with their chosen flight provider.

Q19: Is there a recording of the REDDI 2016 F1 Q&A presentation made on Jan 20 & 22 that can be reviewed at a later date?

A: There is no recording of the presentation; however, the slides will be posted on the FOP website: <https://flightopportunities.nasa.gov/>

Q20: When does the "award period" start? Is there a time limitation for starting the award period? i.e. it has to be started in 2016, or 2017?

A: The award period begins when the award instrument is signed. The awards are negotiated and signed as soon as possible after selection.

Q21: If part of the technology in a proposal has yet to be developed and ground tested, does that eliminate that proposal from consideration? For example, we have a rig that has been flown in a parabolic flight previously, but for this solicitation we want to replace the old test section with a new test section made from a new material. Are we required to develop and ground test the new test section before submitting this proposal?

A: The requirement is that the technology be at TRL 4 at the time of proposal submission. If the change in your test setup affects the technology TRL, making it lower than TRL 4, then you would not be eligible to submit a proposal yet. If the change in your test setup does not affect the technology TRL, and your technology is at TRL 4, then you would be eligible.

Q22: Does "NASA PI" mean NASA Civil Servant only? I'm a NASA contractor and would be the PI. Would I be eligible for the REDDI solicitation?

A: If you're a NASA contractor working on a NASA activity, you would not be eligible for the REDDI solicitation and would need to use the internal directed payload process for NASA Centers. For questions on the internal NASA directed process, please contact the Flight Opportunities Program directly. If you're a NASA contractor working on a non-NASA activity, then you may propose to the REDDI solicitation.

Q23: Would a High Altitude Long Endurance (HALE) vehicle count as a qualified vehicle? For example, Boeing's Phantom Eye unmanned vehicle can fly up to 65,000 feet for up to 10 days.

A: All vehicles must meet qualified requirements of Section 1.2 in the solicitation.

Q24: We are a U.S. company contracting flight services in the U.S. under an SFA agreement with a foreign non-profit research organization. As a non-profit, they are restricted from providing service for compensation or hire, but have established heritage in providing flight research services in the U.S. under

direct research-based contracts. What would our customers seeking to use this vehicle through us need to provide to NASA in their proposals?

A: See answer to Question 3.

Q25: If we have an agreement to complete and report ground based testing of our technology before the award decision date, can we still be considered for this award?

A: See answer to Question 16.

Q26: What happens if I get awarded a Grant for parabolic flight but the flight provider is not able to fly my payload within the allotted 1-year duration of the Grant? Will I be able to get an extension of the Grant to achieve the flight when the flight provider is ready to fly my payload?

A: The Flight Opportunities Program will consider these situations on a case by case basis.

Q27: I am not able to purchase an individual payload slot for my experiment. Would proposing a budget for a fully manifested flight that exceeds the limit set in the solicitation be considered responsive?

A: Any proposal that exceeds the specified maximum would be considered non-responsive. You are encouraged to check with vendors who may be willing to sell by the payload slot instead of a full manifest.

Q28: Is NASA willing to guarantee a full manifest on a flight?

A: NASA is not in a position to guarantee a full manifest on a commercial flight provider's flight campaign.

Q29: I understand that you are not currently funding people to fly suborbitally because there is not currently a policy in place for this. Would you happen to know when such a policy might be developed?

A: We are not able to provide any timeframe for any policy change related to spaceflight participants on board suborbital flight vehicles.

Q30: I understand that you prefer to fund only the number of people required to test and operate the technology on a parabolic flight. For our purposes, having as many people as possible wear this device during such a flight would give us more robust data. What would be the maximum number of people that you would allow on a parabolic flight?

A: The solicitation does not set any minimum/maximum number of participants on a parabolic flight. The offerors are expected to propose a number based on the test requirements and be responsive to the evaluation criteria provided in the solicitation.

Q31: Can you give us your official description of Technology Readiness Levels (TRLs)? We have seen a few conflicting versions in different NASA documents.

A: Appendix F1 follows the TRL definitions described in Attachment 2 of the main SpaceTech-REDDI-2016 solicitation document. Refer to NPR 7123.1B for NASA Technology Readiness Level descriptions; these can found by following the link:

http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal_ID=N_PR_7123_001B_&page_name=AppendixE&search_term=7123.1b

Q32: For a proposal in response to the subject solicitation, an external PI from industry would like to have me join his team as a Co-I. Is this permitted, given that I am an employee of a NASA FFRDC?

A: It is permitted if this is done within the constraints of the solicitation's budget. The program will not provide any additional funding outside of the proposal's budget.

Q33: Do you have any proposal examples that I can look at to see if I have a similar format?

A: Proposals received by NASA are considered proprietary, and, therefore, cannot be released.

Q34: By what time is my proposal due on the proposal due date?

A: The proposals are due by 11:59 pm Eastern Time on March 8, 2016. However, the proposers are urged to complete their submissions early to avoid any last-minute problems. Proposers also are advised to keep in mind that the NSPIRES Help Desk will close at 6:00 p.m. Eastern Time.

Q35: May we contact someone in STMD to discuss a potential proposal?

A: Space Technology Mission Directorate (STMD) personnel are in a blackout period for this solicitation until awards are announced. Please refer any questions, comments, or inquiries to the specific email address listed in the solicitation: HQ-STMD-FO@nasaprs.com. Frequently Asked Questions (FAQs) will be regularly posted, so all can see the questions received and the STMD responses to those questions.

Q36: I would like to fly a payload on a suborbital rocket with a suborbital rocket flight provider. They are offering both a pathfinder flight (earlier and cheaper) and a commercial flight (later, more expensive but with flight success guarantee). Could you please tell me if the selection process for FOP proposals favors one or the other type of flights?

A: The offeror is encouraged to review the Evaluation Criterion 3 – Cost, Value, and Schedule in the solicitation to guide their selection of flights offered by commercial flight service providers. Also, the flight vehicle must be qualified as specified in Section 1.2 of the solicitation. See also Question 3.

Q37: If the flight services fee was less than the maximum \$250K, could the balance of that amount be applied toward Facilities & Administrative (F&A handling or indirect) costs? For example, my flight services fee was \$200K, leaving a balance of \$50K. Could I have applied that \$50K toward F&A and still use the \$50K of cost element 2 to support experiment development?

A: No. Flight Cost and Other Costs are two separate cost elements. NASA is providing up to \$250K for purchase of flights and the associated F&A cost. For example, if the flight cost is \$200K and the associated F&A cost is 3%, the total for this cost element cannot exceed \$206K. NASA is providing up to \$50K in funding for Other Costs to cover the

design, development, preparation of the payload for flight, and travel in support of flight, and the associated Facilities & Administrative (F&A) costs. The requirement is that the total of all Other Costs and the associated F&A costs cannot exceed \$50K.

Q38: How do I register my organization?

A: All organizations need a DUNS number to register with NSPIRES. The application form is at <http://fedgov.dnb.com/webform>. This process requires 1–2 business days but can be obtained immediately via telephone. Foreign organizations need to obtain a NATO CAGE code from <https://eportal.nspa.nato.int/AC135Public/scage/CageList.aspx>. [For U.S. organizations, the CAGE code will be provided during the SAM registration described in the next step.] With these registrations in hand, the organization can register with the System for Award Management (SAM) at <https://www.sam.gov/portal/public/SAM/>. This is free and typically takes 3-5 business days. The Electronic Business Point of Contact (EBPOC), designated in your SAM registration, can now log into NSPIRES to register the organization. Federal regulations require all applicants for federal contracts and grants to be registered with SAM.

Q39: Can foreign entities apply to this solicitation?

A: Yes; as stated in the Appendix, foreign entities may also participate under this Appendix when in partnership with a U.S. entity. NASA will not consider proposals that do not include a domestic entity as the lead proposer. Any foreign entity prohibited from participation by the eligibility information in the NRA or by U.S. law is prohibited from proposing to this Appendix.

Q40: Is it possible to fly payloads with animal or human subjects (flight participants) under this opportunity?

A: Payload accommodation requirements for human or animal test subjects are determined by the flight provider. At this time, NASA will not sponsor any flight participants on balloons or commercial suborbital reusable launch vehicles. Note that it is your responsibility to provide all proper biomedical approvals such as Institutional Animal Care and Use Committee (IACUC) and/or Institutional Review Board (IRB) approvals before the flight according to the schedule provided by the Flight Service Provider.

Q41: The solicitation document states “If human test subjects are involved in the research, the proposer’s Institutional Review Board (IRB) and the flight providers are responsible for providing applicable requirements.” We are an independent company that does not have access to an IRB. Can we use a NASA IRB? Is the IRB certification required at the time of proposal submission?

A: All experiments must meet the flight provider’s requirements. Work with the flight provider to determine the best course of action. IRB certification is not required at the time of proposal submission.

Q42: The solicitation document stipulates that the technology to be flown needs to be at least at TRL 4 at the time the proposal is submitted. Can the equipment

enter at level 4 or does it have to graduate through levels 1-3 first? Does a proposal require documentation of the technology meeting each level's exit criteria or just level 4?

A: It is not a requirement for the proposed technology to have been through each TRL up to 4, only that it is at TRL 4 at the time of the proposal. Proposers need to be able to justify this level of readiness. Proposers should be able to describe what has been done so far to develop the technology (by them or by others) to TRL 4.

Q43: We would like to fly an experiment using existing, well-established technology to extend its use to the space environment. Is that possible as part of this program, given that it is not completely new technology?

A: Yes. In this case, the technology may work well on the lab bench, but not in a space environment. FOP views the adaptation of existing technologies to space just as valuable as brand new inventions.

Q44: I have started the proposal creation/submission process. How do I find what I started and see where it is in the process?

A: To see the proposals that you have in process, log into your NSPIRES account and select the "Proposals" link. Below the Active Proposals heading is a list of all proposals that you have started to create as a PI or on which you have been identified as a team member, but which have not yet been submitted. The title of the proposal is a link that will take you to the screen that allows you to edit the various components (note that if you are a team member other than the PI, you may not have editing privileges, depending on whether the PI has granted them to you or not). The organization to which you have linked your proposal (if any) is shown, as is the PI's name, the proposal due date, and the proposal status.

Q45: Do I need to list all team members on my Proposal Cover Page in NSPIRES?

A: Yes. Each individual team member must be listed on the Proposal Cover Page and confirm their participation on that proposal (indicating team member role) and specify an organizational affiliation via NSPIRES. See the Appendix and NRA Attachment 3 for details.

Q46: Who is required to submit a statement of commitment? Is it just the PI's organization, or do all key team members need to submit a letter from their organization? Does this requirement apply to NASA Centers and other government agencies?

A: Letters of commitment are required from the organizations of all key personnel. Proposals from partnerships of more than one entity must include a letter of commitment from each partner organization. However, you need to provide just one letter per participating organization, and not one letter per person. This requirement applies to all organizations, including NASA Centers and other government agencies.

Q47: I receive "checks" that I am missing proposal components when I submit my proposal. What does this mean?

A: As a courtesy, NSPIRES performs a “check” of the proposal components upon submission. NSPIRES is used by multiple programs for proposal submission and only the components outlined in this solicitation are required for compliance. Checks referring to proposal components not mentioned in the Appendix can be ignored. Completed proposal cover page elements and one proposal document PDF file, as outlined in the solicitation, are the only required proposal components for this solicitation. Note that NSPIRES performs this check merely as a courtesy, and it is your responsibility, and not NASA’s, to make sure your submitted proposal includes all required components.

Q48: What do the various “proposal status” types in NSPIRES mean?

A: There are five different proposal status types.

Pending is a proposal cover page that is in process, but not yet linked to an organization. Only the PI (and any team member who has been granted privileges) can edit the cover page or upload documents in this status.

Linked is a proposal cover page that is in process, and linked to the organization that is going to submit it. Once a proposal is linked, appropriately privileged personnel in the organization who will be submitting the proposal (typically the Authorized Organizational Representative, or AOR) will have access to the proposal and can, if necessary, lock the proposal.

A locked proposal cannot be edited. A proposal becomes locked when the PI clicks the “Release to Org” button. A proposal can also be locked by the AOR, who can also unlock a proposal if further editing by the PI is needed.

A rejected proposal is returned by the organization to the PI. It can be edited by the PI and re-released to the organization.

A submitted proposal has been submitted to NASA by the AOR. Submitted proposals no longer appear on the “Active Proposals/NOIs” page of a PI’s proposals page. Instead, submitted proposals are shown on the “Submitted Proposals/NOIs” page.

A withdrawn proposal is pulled back from NASA by the organization. If this is done prior to the proposal due date, the proposal may be re-submitted, and it will be given a new proposal number. After the proposal due date, the proposal cannot be re-submitted.

Q49: How can I verify that my proposal has been submitted?

A: You should receive an email from NSPIRES announcing the submission of your proposal. In addition, on your NSPIRES account the proposal will no longer appear on the “Current proposals/NOIs” page. Select the “Submitted proposals/NOIs” link to the left of the screen. Submitted proposals and NOIs are displayed here. Ultimately, it is

your responsibility, and not NASA's, to verify that your proposal has been officially submitted by the proposal due date.

Q50: Can I request an extension for submitting my AFO proposal?

A: Extensions will not be granted. It is strongly recommended that you begin your application preparation early, familiarize yourself with both the solicitation and its associated instructions, and ensure that the Authorized Organizational Representative is registered with NSPIRES and will be available to submit your application by the deadline.