

## International Space Station (ISS) Commercial Resupply Services 2 (CRS2) Request for Proposal (RFP) NNJ14507542R Questions and Answers Posting #2

35. Changing Applicable Spec Documents – Attachment V.K (pg 199) lists the Applicable Documents with rev letters. However, the key requirement documents in this table are specified with rev letters plus DCNs (i.e., SSP50108, SSP 50808 & SSP 50964). This requires Bidders to bid to a changing set of requirements. Additionally Bidders have no notification when new DCNs are added. Will NASA update this table with the final RFP to provide a firm set of requirements for Offerors to bid to? Additionally, can NASA make available to Bidders the ongoing approved DCNs during this time leading up to proposal submittal?

NASA responded that the table of Applicable Documents will be updated prior to release of the final RFP to provide a firm set of requirements for offerors to bid to, but the table of Applicable Documents has not been updated. When does NASA expect to make available an updated table of Applicable Documents for Offerors to respond to the final RFP?

A. The Technical Library has been updated. The library has the complete set of applicable and reference documents related to the procurement. Other than documents identified in the RFP to be provided at a later date, such as the NASA Docking System preliminary build-to-print package, additional documents added going forward will be included under “White Papers and Other Data.” If NASA determines additional documents need to be included in the complete set of data, offerors will be notified in an amendment.

36. The RFP has a number of documents listed as Applicable Documents, but does not reference which requirement these are applicable to (as is done in SSP 50808). The RFP also does not refer to some of these documents anywhere except in the Applicable Documents table. As a result it is not clear which sections of the documents are applicable and in some cases how they would be applicable in a contract. Specific questions are below:

a. The following documents are not referenced anywhere in the RFP except in the Applicable Documents table: FIPS PUB 201, HSPD-12, and OMB M-05-24. These all appear to be the reference documents that were used to generate Attachment V.G.. Two of these documents (HSPD-12 and OMB M-05-24) appear to be applicable to NASA and is not clear how a CRS2 provider could implement these other than to follow FIPS PUB 201 or Attachment V.G. We would like to recommend that HSPD-12 and OMB M-05-24 be listed as Reference Documents instead of applicable documents or it be clarified how these would be applied to a provider, including which sections in these documents are applicable and to which requirement in the RFP these are to be applied.

A. Only FIPS PUB 201 was listed in the final RFP, the other documents were in the draft RFP but had been removed before the final RFP. Attachment V.G. will be deleted from the final RFP in its entirety in an RFP amendment. FIPS PUB 201 will be removed from Attachment V.K.. Offerors should follow FAR 52.204-9 as incorporated by reference in II.A.31 for FIPS PUB requirements. This will be updated in an amendment to the final RFP.

b. FIPS PUB 201-2 has superseded FIPS PUB 201-1. Attachment V.G. takes data from FIPS PUB 201-1. If there is a conflict between FIPS PUB 201-2 and Attachment V.G., which document has precedence? Is all of FIPS PUB 201 applicable to the provider or just the elements described in attachment V.G.? We would like to recommend that Attachment V.G. describe what the provider is required to support and FIPS PUB 201 be listed as a reference document.

A. See RFP Q&A #36 a.

c. Attachment V.G. references (which appears to come from FIPS PUB 201-1) references certain paragraphs in NPR 1600.1. These paragraphs do not seem to make sense when looking at the applicable version (NPR 1600.1A). For example, Paragraph 4.5 of NPR 1600.1A referenced from Attachment V.G. is related to firearms instruction. We would like to recommend that the content or intent of the information that is referenced in NPR 1600.1 be put into Attachment V.G. and NPR 1600.1 not be an applicable document. If NPR 1600.1 remains as an applicable document, we would like to recommend that the scope be limited in the applicable documents table and the references to paragraphs be fixed for Attachment V.G.

A. Attachment V.G. will be removed from the RFP as this is referenced in Section II.A.31, Clauses Incorporated by Reference. NPR 1600.1 and FIPS PUB 201-1 will be removed from Attachment V.K., Applicable and Reference Documents. This will be updated in an amendment to the final RFP.

d. FIPS PUB 199 and FIPS PUB 200 are listed as applicable documents, but there is no reference to these documents in any requirement in the RFP. Can you clarify in the applicable documents table which parts of these documents are applicable and to which requirement these apply?

A. The Final RFP, Attachment V.K., Applicable and Reference Documents does not list the FIPS PUB 199 or 200 as applicable documents.

e. None of the NIST SP-800 guides (NIST SP-800-18, NIST SP-800-26, NIST SP-800-30, NIST SP-800-34, NIST SP-800-53A, NIST SP-800-61, NIST SP-800-63) are referenced in any requirement in the RFP. As these are guides and are not applied to any requirement, we would like to recommend that these be moved to the reference document list. If one or more of these documents remains an applicable document, we would like to recommend that it be clarified in the applicable documents table which sections in the document apply to the provider and which requirement in the RFP they are applied to.

A. The Final RFP, Attachment V.K., Applicable and Reference Documents, does not list any of the NIST SP-800 guides. The technical library has been modified to remove these documents.

f. The applicable documents list NIST SP-800-26 as being superseded by NIST SP-800-53. However both NIST SP-800-26 and NIST SP-800-53 are included as applicable documents. Could you clarify how these can both be applicable?

A. The applicable documents list of the final RFP does not include any NIST SP documents. The draft RFP did contain these documents but was updated before publishing the final RFP.

37. NPR 2810.1 is listed as an applicable document but is not referenced in any requirement in the RFP. NPR 2810.1 states that it applies only to the extent specified or referenced in the contract. As a

result, we would like to recommend that this be removed from the applicable document list or moved to the reference document list.

A. The applicable documents list of the final RFP does not include NPR 2810.1. The draft RFP did contain these documents but was updated before publishing the final RFP. The Technical library has been modified to remove the NPR 2810.1 documents.

38. P.81 SOW 2.1.1 Cargo Density Requirements - SOW text says "A minimum useable pressurized cargo density of 65 Cargo Transfer Bag Equivalent (CTBE) per 1000 kg of pressurized cargo shall be used." Please clarify the following: 1) Should the word "minimum" be deleted? 2) Please provide the "TBD" for water/brine container in Table 2.1.1-1.

A. No, the word minimum does not need to be deleted. A density of 65 CTBE per 1000 kg is required, however, an offeror could propose a higher volume to mass availability at their discretion. This density value has taken into account launching water and powered lockers and conditioned stowage all of which are denser than other cargo. The TBD will be updated in the RFP amendment to be the equivalent of 4 CTBE's in Table 2.1.1-1 Cargo Transfer Bag Equivalent. Additionally, SOW sections 2.1.2.3 and 2.2.1.3 will be updated to state the requirements for water/brine delivery.

39. P.82 SOW 2.1.2.2.1 - FRFP added "...should provide the capability to command powered payloads..." Please clarify if "command" means to apply/remove power or if it means pass software commands. If it is the later, please define the command interfaces & protocols.

A. Command means to pass software commands to the payload. The command interfaces and protocols will be in a detailed ICD developed for each payload. The offeror should propose their approach for providing a command pathway to the powered payload if they choose to provide this capability.

40. P.9, Sub-CLIN 0001E Provision of Flight Support Equipment Hardware (\$) - Attachment V.F identifies a wide range of very specific FRAMs that may be utilized, including the SAPA, ExPA, CEPA, LAPA and MAPA, but that if needed, the LAPA and MAPA will be provided by NASA. Paragraph 2.5.1 further indicates that "Contractor shall provide certified, adapter plate assemblies (FRAM plus adapter plate, e.g., SAPA, ExPA, CEPA). The Contractor shall also build the corresponding passive FRAMs. The Contractor may also be asked to build unique FSE to attach ORU's to the FRAM adapter plates." The Sub-CLIN 0001E Pricing Table utilizes a generic column label "FRAM(S) Provided" where pricing is to be provided on an annual basis for a variable number of "FRAM(S)." Can NASA be more specific in these pricing tables (i.e., specify separate pricing for the SAPA, ExPA and CEPA), and likewise, indicate whether this pricing table is also supposed to include pricing for potential "unique FSE to attach ORU's to the FRAM adapter plates," and if so, provide a set of requirements to be used for price generation?

A. SAPA, ExPA, and CEPA are generally the same pieces of hardware with some difference in attachment plate and connectors/harnesses that are expected to have minimal impact on the cost. The offeror may choose to be more specific in these pricing tables. Unique FSE pricing will be done on a case-by-case basis as the requirements will be unique for each piece of FSE and will be done as part of a special study task order and is not expected to be included in this table.

41. There are several applicable documents with DCNs identified in the revision column. Specific DCNs do not appear to be identified for SSP 50808, SSP 50833 & SSP 50964. Which DCNs are applicable to the ADL and where are copies available?

A. DCNs for SSP 50808 have already been incorporated into Revision F. An amendment to the RFP Attachment V.K. will be made to remove the "+ DCNs" for SSP 50808. SSP 50964 that is currently

in the Technical Library has the DCN already incorporated into the document as shown on the document cover. For SSP 50833, the DCNs 0001A, 002A, 0003A, and 0004A were added to the technical library after the release of the Final RFP. All DCNS for these documents included in the technical library are applicable.

42. In answer to dRFP Question Number 49 “[d]oes NASA intend that transported cargo be covered by the provisions of ISS Cross-Waiver of Liability for ISS Activities” NASA responded “Yes”. The final RFP at paragraph II.A.7(d) suspends the ISS Cross-Waiver during launch and re-entry. At paragraph II.A.7(e) of the RFP a \$100M insurance coverage requirement for damage “. . . to U.S. Government property, except for damage to all on orbit ISS structures, modules, and systems required for functionality of the ISS, during Launch Services, Reentry Services, or transportation to, from, in proximity of, or docking with the ISS under this contract.” Does NASA intend for Contractors secure \$100M insurance coverage for scheduled cargo? If NASA does not desire insurance for scheduled cargo, please add “scheduled cargo” to the paragraph II.A.7(e) exceptions and clarify what Government Property NASA intends to have insured.

A. Yes, it is intended for Offeror’s to secure insurance coverage for scheduled cargo.

43. P.201/2 Attachment V.K Applicable and Reference Documents - In the applicable documents revision column for SSP 50808, SSP 50833 and SSP 50964, there is a revision letter “plus DCNs.” Please define what specific DCN numbers apply to these 3 NASA documents beyond those DCNs that are defined by the listed revision letter.

A. See RFP Q&A #41.

44. SOW paragraph 2.1.2.2.1 adds requirement for visiting vehicle to command powered payloads but do not define format of commanding. Please specify command formatting required.

A. See response to RFP Q&A #39.

45. Is Attachment V.J., Government Furnished Property, required to be submitted with the proposal? If so, under which Volume/Section and is it included in the page count limitation for that Volume/Section?

A. Attachment V.J. is not required to be submitted with the proposal. The offerors intent to use or not use the property in Attachment V.J. is information that should be included in Offer Volume which does not have a page limitation. An amendment will be made to VI.A.18 and V.A.20 in the RFP to clarify.

46. Does only a description of DRD CRS 1-5 count against the 225 page limit, or does the entire DRD CRS 1-5 (Safety and Health Plan) count against the limit?

A. The entire DRD counts against the page limit.

47. Will acronym lists before each volume satisfy the request for both “acronym lists” and “glossaries”?

A. The offeror should provide acronym or glossary information as necessary for the Government to evaluate the proposal. They do not need to be separate.

48. The RFP introduces an new (draft) revision of SSP 30309. Does the introduction of this new document require existing hazard reports that would be used for CRS2 to be modified to conform to

the new format and/or new likelihood scale? Do new hazard reports need to use the new format and/or likelihood scale?

A. CRS2 will require new hazard reports that will conform to SSP 30309 (Rev G draft), including the new format and/or likelihood scale.

49. The new version of SSP 30309 (Rev G draft) in the RFP changes the definition of critical and catastrophic hazard to change “orbiter” to “visiting vehicle”. Depending on how this is interpreted, this could have very important consequences. Can NASA clarify if the visiting vehicles are only vehicles already at the ISS or include the visiting vehicle approaching the ISS and/or include a visiting vehicle departing the ISS (i.e. including the CRS2 vehicle the hazard report is being developed for)?

A. The old version of SSP 30309 used the word “orbiter” to mean the Space Shuttle. The term “visiting vehicle” in SSP 30309 (Rev G draft) applies to any object(s) that enters the ISS approach ellipsoid. All of these object(s) require a safety assessment that includes all ISS proximity and integrated operations (approach, integrated operations, and departure).

50. SSP 41175-39 is referenced in the RFP and in SSP 50808 as an applicable document and in both cases reference the document with respect to C2V2. The version of SSP 41175-39 provided in the tech library does not include any reference to C2V2, only CUCU and PROX. Note that the version in the tech library is the version that is listed as an applicable document in both the RFP and in SSP 50808. Also note that SSP 50808 specifically calls out this document only in relation to the unique aspects of C2V2 (i.e. SSP 41175-39 is not applicable in 50808 in relation to CUCU and PROX). SSP 50808 does not indicate which paragraphs in SSP 41175-39 apply. Can NASA provide the version of SSP 41175-39 which includes C2V2 and indicate which paragraphs in SSP 41175-39 are applicable in SSP 50808. Further, as the SOW in the RFP references SSP 41175-39 which is an ICD between two pieces of hardware on the ISS, could NASA indicate which paragraphs of SSP 41175-39 are applicable to the SOW paragraph 2.0.6?

A. NASA has updated the technical library with all of the Preliminary Interface Revision Notices (PIRNs) that add the C2V2 content. All paragraphs related to C2V2 are applicable to SOW paragraph 2.0.6. An amendment will be made to Attachment V.K. in the RFP to clarify that PIRNs are included.

51. In SSP 50808 paragraph 3.3.7.2.2.5 requires “The COTS system shall provide the ability for the ISS crew to originate commands to the un-crewed COTS vehicle.”. This required the COTS provider to supply or access a communication system (PROX and CUCU) that could send these commands and provide a method of creating the commands. A fault tolerant commanding capability needed to be used (HCP and DCP) as the providers were told the PCS was not certifiable for safety critical commanding (individual and multiple PCS could be susceptible to radiation events). The hardware commanding capabilities that were developed for visiting vehicles also serve the purpose of providing feedback to the crew to meet other requirements. As the RFP requires the use of C2V2 and C2V2 does not appear to have this hardware panel commanding capability, can NASA clarify if the requirement in the RFP takes precedence over the requirement in 50808 and the CRS2 provider will not be required to supply a commanding system? If NASA is providing this commanding capability, are there any responsibilities for the provider for developing and/or testing any of the command and display capabilities on the ISS, and if there are, can NASA clarify what development and what testing is required? If NASA is not providing this commanding capability, can NASA provide insight into options for ISS crew command capability development?

A. The PCS will be used as a “command panel” to send commands to un-crewed visiting vehicles. The offeror will not be required to develop any command and display capabilities on the ISS but

the offeror will have to be involved in integrated testing between the ISS systems and the visiting vehicle to ensure commands have been received and executed by the visiting vehicle.

52. SOW 2.05 requires a new capability to support approach and departure with other vehicles attached to ports near the port being approached/departed. This can impact clearance for approach/departure, failed dock/capture/separation and abort as well as impact navigation capabilities. Can NASA provide any data related to a keep-out zone for clearance, blockage to navigation targets, changes to the ISS profile that impacts navigation, and any new restrictions on plume or EMI/EMC for these other vehicles or will case-by-case analysis need to be included when costing a mission?
- A. SSP 50808 identifies plume requirements and clearance requirements to ISS structure (which includes any visiting vehicle on ISS as part of ISS' structure). ISSP can provide specific Station configurations if requested – there could be a visiting vehicle on N2 forward, N2 zenith and N1 nadir for an approaching vehicle to the SSRMS grapple box; as well as a visiting vehicle on N2 forward, N2 zenith and N2 nadir for departure from the SSRMS release box. PMM module will be on N3 forward port (currently on N1 nadir), IDAs on PMAs 2 and 3 on N2 zenith/N2 forward. Navigation targets/communication coverage/EMI/EMC should consider visiting vehicles on these locations. Specific Navigation targets can be provided if requested, they are usually documented in vehicle specific ICDs.
53. Can NASA confirm that SOW Paragraph 2.05 should be interpreted that there may be one, two, or three other vehicles at Node 1 and Node 2 when a provider arrives and departs, but there will never be a vehicle at Node 2 Nadir when a berthing vehicle approaches. Can NASA also confirm that there is no plan to robotically change berthed locations once attached and there is no plan for docked cargo vehicles to be required to change ports.
- A. Correct, there could be one, two or three vehicles present when a provider vehicle arrives (N2 forward, N2 zenith, N1 nadir). For robotic departure there could be one, two or three vehicles present (N2 forward, N2 zenith, N2 nadir or N1 nadir). There will not be a vehicle present at N2 nadir when a vehicle approaches. There are operational scenarios that could require a robotic port change after initial berthing (for berthed vehicles). There are also operational scenarios that could require a docked cargo vehicle to be capable of relocating to another docking port after initial docking.
54. The Applicable Documents table in the RFP shows SSP 50808 Rev E + DCNs as applicable. The version of SSP 50808 is Rev F. The Tech Library only has a subset of the DCNs that are Rev F. Are all the DCNs in Rev F applicable or are only the DCNs that are included in the Tech Library applicable?
- A. The subset of DCNs for SSP 50808 will be removed from the Technical Library. The DCNs have already been incorporated into Revision F. An amendment to the RFP Attachment V.K. will be made to remove the "+ DCNs"(see RFP Q&A #43).
55. The Applicable Documents table in the RFP shows SSP 508033 Rev A + DCNs as applicable. There are no DCNs listed and there are no DCNs in the Tier 2 directory for SSP 508033 in the Technical library. Which DCNs are applicable and where can they be found?
- A. For SSP 50833, DCNs 0001A, 0002A, 0003A and 0004A were added to the technical library on in the Tier 1 Applicable Documents (see RFP Q&A #43).
56. Instructions to Offerors: Paragraph VI.A.13, Information Requested from Offerors concerning Clause IV.A.1 Minimum Requirements Compliance states; "The Offeror shall explain how its proposal,

including the approach, teaming arrangement and vehicles it will use to provide the services required under this contract throughout the period of performance is in compliance with the Minimum Requirements stated in Clause IV.A.1.”

Will completion of the Representations and Certifications at Clause IV.A.1 adequately address the question or is there an expectation of a narrative explanation in addition to the representations and certifications within Clause IV.A.1? If an additional narrative is expected, where would be the desired location?

A. No, a narrative is also required per VI.A.13 Information Requested from Offerors Concerning Clause IV.A.1, Minimum Requirements Compliance. This shall be provided with the Offer Volume per VI.A.20.

57. This solicitation contains FAR clause 52.219-9 “Small Business Subcontracting Plan” with Alternate II. Under this clause paragraph (v), this requirements must be flowed down to all first tier subcontractors expected to exceed the dollar threshold cited. This clause further requires yearly reporting by our first tier of their small business participation over the course of the program.

Given the above requirements of FAR 52.219-9, and the best interest of the Government and the CRS2 program, would NASA consider the inclusion of large first tier subcontractor’s small business utilization in the CRS2 Program “Small Business Subcontracting Plan”.

A. No, NASA will not include the large first tier subcontractor’s small business utilization towards the prime contractor’s small business goals.

58. Section VII.C. Pgs 251-252 States that “The price to be evaluated for the Source Selection will be: (CLIN 0002A ISS Certification Price) + the sum of (CLIN 0001 Contract Years 2018- 2024 NTE Standard Mission prices at ½ annual demand for pressurized upmass).”

For the CLIN 0001 portion of this evaluation total, will NASA clarify how multiple Standard Mission Types are addressed in the calculation? Specifically, will NASA add all CLIN 0001 Standard missions A,B,C and D prices (if all pressurized) for each year at a price point where the Standard Mission A, B, C and D each can lift 50% of the annual mass and add them all together as one total price? Or is it NASA’s intent to evaluate separately each Standard Mission in CLIN0001 with its corresponding CLIN0002A integration as separate prices, such that providers must propose enough missions of each Standard Mission Type to achieve at least 50% of the NASA annual pressurized upmass requirement?

The calculation illustration that NASA provided in the RFP was helpful. It would be helpful also to know how Standard Mission Types factor in to the example.

A. Each Standard Mission in CLIN 0001 with its corresponding CLIN 0002A integration will be evaluated separately. NASA will calculate the number of annual flights that each type of Standard Mission requires to supply 50% of the NASA annual pressurized upmass requirement times the proposed price for that number of missions plus the integration price, as the RFP calculation illustrates. An amendment will be made to the RFP to clarify the evaluation of price.

59. In RFP Attachment V.A Statement of Work, what is the CTBE equivalent volume and associated mass for the TBD transferable water/brine container listed as TBD in Table 2.1.1-1 on page 82?

A. See response to RFP Q&A #38.

60. In Section VI.A.18 (c ) (1) (ii) the instructions say “All pages of Volumes I, II, III and IV shall be numbered and identified with the Offeror’s name, RFP # and date.”

Since Volume I contains primarily NASA provided documents, does NASA still want the Offeror’s name on each page of the Volume or does NASA want the Offeror’s name on pages that contain data provided by and specific to the offeror (such as fill-ins)?

A. The offeror’s name should not be included on pages of the model contract. An amendment will be made to the RFP to clarify.

61. Statement of Work paragraph 4.1.3.5, ISS Integration Certification Milestone 5 - This milestone includes compatibility test(s) with TDRSS and the Contractor’s Ground and Visiting Vehicle systems (Paragraph 4.1.3.5.5) and Thermal Vacuum test(s) for the initial Visiting Vehicle (Paragraph 4.1.3.5.6). Can these tests be moved to ISS Integration Certification Milestone 6 or 7? These tests typically occur in the test program much later than the other events listed in Milestone 5.

A. The offeror can propose changes to the milestones per the instructions in section VI.A.21 item 4 Deviations and/or Exceptions (Mission Suitability Proposal): “Identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to these mission suitability proposal instructions or to any of the technical requirements of this solicitation, such as the statement of work and related specifications.”

62. Are all of NASA's written responses to Offeror's questions which were submitted during the Draft RFP period applicable to the Final RFP?

A. No. The draft RFP questions were used as a source of changes to develop the final RFP so answers to the draft RFP questions may no longer be applicable to the final RFP.

## Corrections to RFP Q&A Round 1

4. Can NASA clarify how it intends to implement the HSPD-12 directive under CRS2? (e.g., what does the agency consider sufficient duration or frequency to trigger the need for a contractor employee to get the ID? How long in advance does this need to be done? What is NASA’s process? What does the background check cover?)

A. Details for HSPD-12 can be found at <http://hspd12.isc.nasa.gov/identitymanagement.htm> for NASA. ~~Attachment V.G in the RFP outlines NASA ID procedures.~~ (See RFP Q&A #36)