

### MIRI Dewar RFP Questions

| Reference             | Question  | Answer  |
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| Proposal Instructions | Is facing page text allowed to provide explanations of the information provided on the Volume I charts? Will the facing page text count against the 100-page limit?   | Yes, facing text will be allowed  |
| SOW 3.1.4, third para | Does "Network Schedule" preclude showing the work flow in Gantt format? Gantt would be more page space efficient.   | No, a Gantt format is perfectly acceptable.   |
| Spec                  | Specifics regarding the digital command and telemetry protocols for the 1553 and RS-422 interfaces are not discussed. Is a reference signal provided to the DCE across the RS-422 interface for the purpose of clocking commands and telemetry? | 1553 will follow the standard reference, MIL-STD-1553B.<br>RS422 interface is undefined. We do not have an ICD with the Spacecraft yet.             |
| Spec 3.2.2.4          | The comment preceding 3.2.2.4 states that the temperature sensor requirements are intended for measuring TSI temperatures. Subsequent paragraphs imply the requirements apply to all temperature measurements. Which is correct?                | The comment in 3.2.2.4 is misleading and it should be considered removed. The requirements apply to all temperature sensors in the Dewar subsystem. |

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| <p>Spec<br/>3.2.2.4.1<br/>Temperature Sensors</p>                                 | <p>No single sensor can meet the resolution and accuracy requirements (ref. paragraphs 3.2.2.4.1.2 and 3.2.2.4.2) over the specified temperature ranges. Along with the redundancy requirement this implies that more than two sensors (of different types) will be needed in some locations. This would impact the cost of both cabling and DCE. We believe the data needed to support mission operations do not require the specified resolution and accuracy. To avoid more than two sensors at certain locations, please consider relaxing the resolution and accuracy requirements at higher temperatures as follows:</p> <ol style="list-style-type: none"> <li>1. 0.5 mK resolution, +/-10 mK accuracy from 6 K to 8 K (TSI operational temperatures only)</li> <li>2. 50 mK resolution, +/-500 mK accuracy from 8 K to 70 K</li> <li>3. 1 K resolution, +/-2.5 K accuracy from 70K to 320K</li> </ol> | <p>Point taken. The temperature ranges for the thermometers should be split into 4 zones:</p> <ol style="list-style-type: none"> <li>1. 0.5 mK resolution, +/-10 mK accuracy from 6 K to 8 K (TSI operational temperatures only)</li> <li>2. 5 mK resolution, +/-50 mK accuracy from 8 K to 12 K (TSI operational temperatures only)</li> <li>3. 50 mK resolution, +/-500 mK accuracy from 12 K to 70 K</li> <li>4. 1 K resolution, +/-2.5 K accuracy from 70K to 320K</li> </ol> |
| <p>Spec<br/>3.2.3.1.2.4</p>   | <p>If the thermal strap is to be electrically connected to the TSI, and there is no requirement for electrical isolation between TSI and Dewar chassis, a ground loop would exist. Why is there a requirement for electrical connection between the thermal strap and TSI? Is there a requirement for electrical isolation missing?</p>   | <p>Electrical isolation for the OBA is being provided at the OBA side of the thermal straps. Any additional isolation needed by the Dewar is the Dewar's responsibility.</p>  |
| <p>Spec<br/>3.3.9.1</p>   | <p>Can we get access to CSG-RS-10A-CN, CSG-RS-21A-CN, and CSG-RS-22A-CN in order to determine compliance to any unique range safety issues?</p>   | <p><del>In work</del> PDFs for the requested documents were included as PDF attachments to Addendum No. 2.</p>  |
| <p>Spec<br/>3.3.10.8.2:<br/>Proof Load Testing for Fracture Critical Elements</p> | <p>Paragraph implies the cryogen tank, vacuum shell, plumbing, and internal Dewar supports are fracture critical. Per earlier discussions, it was thought that only the kinematic mounts would be fracture critical. Imposing fracture critical requirements on more than the kinematic mounts will significantly increase cost. Please clarify.</p>  | <p><del>In work, need to reconcile DRDs and requirements.</del> JPL agrees that Spec. 3.3.10.8.2, para. a), was most likely provided in error. However, formal concurrence to delete the requirement has not been received to date. To minimize delay, Proposers are requested to provide a separate price for completing this activity.</p>  |

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| Spec 4.4,<br>Table 4.2-1 | Is pages 97-98 Table 4.2-1? The complete test matrix requested would necessarily include over 400 requirements listed in Section 3, consuming a disproportionate number of pages in the RFP response. Is it acceptable to shorten this table by culling out requirements that are more easily verified or which are less critical, so that this section of the RFP response deals with the verification of requirements more relevant to the selection process? | Yes, table 4.2-1 is pages 97-98. The table heading is missing.<br><br>We would like to see what requirements will be verified by test, and how any critical parameters not verified by test will be verified. We do need a thorough understanding of your test and verification plan and approach. The matrix is a possible method to accomplish this. |
| Spec 4.4                 | The requested tables (Tables 4.4.1-1, 4.4.2.2.7-1, 4.4.3-1, 4.4.4-1, 4.4.6-1, 4.4.7-1, and 4.4.8-1), which indicate requirements verified with each test or analysis, are redundant with the test matrix (Table 4.2-1), providing only cross-reference information. Rather than consume pages in the RFP response repeating this information, is it acceptable that we include this information in our response to Table 4.2-1?                                 | The purpose of these tables is to help us understand your test and verification approach. If the information is captured in an alternative method, that will be sufficient. The data only needs to be shown once.  |