

The following questions were received in response to RFP NNA13485427Q-AMD.

PHASE 2:

Question 1: Page 3: 1st sentence “molded and machined articles”? What is molded and what is machined?

Answer 1: All articles are to be fabricated Near Net Shape (molded) and then final machined to respective drawing geometries.

Question 2: Clarify discrepancy in table of hardware requirements (p 13) at 1” and HR01A (p 14) at 0.5” thickness.

Answer 2: Correct thickness is 0.5”.

Question 3: SPRITE articles: describe tooling (does each set make one wedge or several? Is it NNS with post-machining or completely NS?

Answer 3: Each tool makes 3 wedges. NNS with post-machining.

Question 4: Is it top-bottom or single-side? Perforated? Thickness?

Answer 4: Tools are Teflon, have a top and a bottom with holes in each

Question 5: Clarify TC plug notes. PICA or conformal PICA?

Answer 5: Drawing may say PICA but it is for Conformal PICA as well. TC plugs should be machined from extra conformal PICA sections that were made on the molds to insure the same surface curvature and fiber direction as the test sections in which they will be inserted.

Question 6: Do we assemble sprite article?

Answer 6: NASA will assemble the SPRITE article.

Question 7: Do we install grooves on TC plug?

Answer 7: Vendor to machine all holes and grooves on TC plug. NASA will install TC wire and ceramic tubes.

Question 8: Are we making anything out of PICA or is it all from Morgan felt?

Answer 8: Everything to be made from Morgan felt (carbon) or NASA supplied carbon felt (for thick material option).

Question 9: Is Morgan felt to be bought as white goods by contractor and **then** carbonized?

Answer 9: The Morgan felt should be purchased in the Carbonized state – VDG grade 1-inch thick material.

Question 10: Define resin impregnant requirements (final phenolic pick-up definition then vendor designs process or ARC-defined impregnant?)

Answer 10: Correct, NASA will provide requirement for resin, additives and pick up. Vendor to design process for NASA-defined resin and level of pick up.

PHASE 3:

Question 11: Are there any requirements that NASA would define for process tooling or is it vendor-designed/built?

Answer 11: Vendor-designed and built for the equipment vendor has on site.

Question 12: Is the resin impregnant defined (same question as Phase II).

Answer 12: Yes, NASA will define the resin and additives and level of impregnation (pick up)

Question 13: MDU panel DWG (page 17) is the magnified shoulder feature to be machined from NNS part?

Answer 13: Yes unless it can be formed via the mold.

Question 14: Is the shoulder feature the same thickness around the circumferential direction (it looks concave on bottom of green shaded region).

Answer 14: Yes

Question 15: Is the panel flat as shown (confirm only curvature is to border sphere)?

Answer 15: Correct, but final part may change so if possible just size mold for general dimensions. More detailed drawings will follow. The initial plan is that the parts will start conical and transist to shape required at the shoulder.

Question 16: What is the curvature, size, thickness of the nose section (is it PICA or felt-based?)

Answer 16: It is conformal PICA. Thickness 0.5". Diameter ~1-meter, radius of curvature 1.5m as shown on drawing on page 18 of the SOW.

Option 1 –

Question 17: No ice drop capability in house without start-up costs (can we do Cp by MDSC or out-source Cp?)

Answer 17: Yes

Question 18: Modulus (assume from IP/TTT tension tests?)

Answer 18: Yes

Question 19: 1' thick material does not allow use of our baseline tension specimen, will NASA provide design?

Answer 19: We pull 1 or 2" squares bonded to Al blocks

OPTION 2:

Question 20: Define requirements for the bonding structure, or it's ROM only

Answer 20: ROM

OPTION 4:

Question 21: Define size and thickness, ROM only.

Answer 21: No larger than 1-meter diameter, ~3-inch thick NASA supplied felt, vendor may use same nose section IML mold with new OML mold. Current 3" felt pieces are approximately 28"x32", so the resulting demonstration piece will be smaller than the Phase 3 nose section. This option is to demonstrate the ability to make a part with complex curvature using the thick felt.