U.S. GOVERNMENT ACCOUNTABILITY OFFICE

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Comptroller General
of the United States

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Decision

Matter of: Deep Space Systems, Inc.

File: B-417714

Date: September 26, 2019

Devon E. Hewitt, Esq., Scott M. Dinner, Esq., and Michael E. Stamp, Esq., Protorae Law PLLC, for the protester.
Andrew P. Hallowell, Esq., Pargament & Hallowell, PLLC, for Intuitive Machines, LLC; and D. Matthew Jameson III, Esq., and Marc Felezzola, Esq., Babst, Calland, Clements & Zomnir, P.C., for Astrobotic Technology, Inc., the intervenors.
Vincent A. Salgado, Esq., Cody Corley, Esq., and Brian Wessel, Esq., National Aeronautics and Space Administration, for the agency.
Joshua R. Gillerman, Esq., and Tania Calhoun, Esq., Office of the General Counsel, GAO, participated in the preparation of the decision.

DIGEST

Protest challenging agency's evaluation of proposals and source selection decision is denied where the record shows that the agency performed a reasonable price realism analysis and reasonably evaluated technical proposals in accordance with the solicitation as well as applicable procurement law and regulation.

DECISION

Deep Space Systems (DSS), Inc., of Littleton, Colorado, protests the award of a task order to Intuitive Machines (IM), LLC, of Houston, Texas, under a request for task plan (RFTP) denoted as Commercial Lunar Payload Services (CLPS) Task Order No. 2, issued by the National Aeronautics and Space Administration (NASA) for commercial lunar payload delivery services. DSS challenges the agency's evaluation of task plans (hereinafter "proposals") and source selection decision.

We deny the protest.

BACKGROUND

In 2018, NASA awarded nine indefinite-delivery, indefinite-quantity (IDIQ) CLPS contracts to procure end-to-end commercial payload delivery services between the Earth and the lunar surface. Agency Report (AR), Tab 12, Contracting Officer's Statement of Facts (COS) at 528.[1] The IDIQ contracts provide a 10-year ordering period during which NASA can issue fixed-priced task orders. Id.

NASA issued the RFTP under Federal Acquisition Regulation (FAR) subpart 16.5 to all CLPS contract holders, asking offerors to prepare a proposal for the delivery of flight-qualified NASA-sponsored science and technology payloads to the lunar surface by December 31, 2021. AR, Tab 2, RFTP, at 45; AR, Tab 12, COS, at 528. The firms awarded task orders would provide all activities necessary to safely integrate, transport, and operate NASA payloads using contractor provided assets, including launch vehicles, lunar landers, and associated resources. Id.

Award was to be made to the proposals representing the best value to the agency, considering price and non-price factors. RFTP at 49. First, the agency would evaluate proposals for technical acceptability by assessing them for compliance with several baseline technical requirements.[2] Id. Technically acceptable proposals would then be evaluated under the likelihood of successful payload delivery factor and the price factor. Id. at 50. The likelihood of successful payload delivery factor was comprised of two components: risk and schedule. Id. Offerors would receive a confidence rating for both components. Id. NASA would then perform a tradeoff between the significantly more important likelihood of successful payload delivery factor and price. Id.

Pertinent here, the RFTP provided that the agency would evaluate proposed prices for realism, advising that unrealistically low prices may demonstrate a lack of understanding of NASA's requirement and represent a high-risk approach to contract performance. Id. at 55. The RFTP also stated that to be "suitable for evaluation," price proposals needed to provide traceability to the overall proposal, and include a narrative explaining all pricing and assumptions. Id. at 54.

NASA received and evaluated eight proposals in response to the RFTP, with the following relevant results:

[1] The agency consecutively paginated each page of its report, including the RFTP. Citations to the agency report are based on the page numbers in the single pdf document submitted by the agency as part of its report responding to the protest.

[2] All proposals received were found technically acceptable. COS at 537.

	Likelihood of Successful Payload Delivery		
	Risk Component	**Schedule Component**	**Price**
DSS	Moderate Confidence	Moderate Confidence	$109,000,000
IM	High Confidence	High Confidence	$77,000,000
Astrobotic	Very High Confidence	High Confidence	$79,500,000
Offeror A	High Confidence	Moderate Confidence	$97,000,000
Offeror B	High Confidence	High Confidence	$193,000,000

AR, Tab 10, Source Selection Decision Document (SSDD) at 507, 509.

The contracting officer, acting as the source selection authority (SSA), reviewed the evaluation team's results and performed an independent comparative assessment of proposals against the solicitation's evaluation criteria. AR, Tab 10, SSDD at 510. The SSA concluded that IM, Astrobotic, Offeror A, and Offeror B offered "considerable qualitative advantage[s]" over the other proposals. Id. at 512. Narrowing his consideration to these most highly-rated proposals, the SSA found that while Offeror B's price was nearly double that of the other highly-rated proposals, its proposal did not provide "commensurate value to NASA that would justify" the payment of such a substantial price premium. Id. at 513. As a result, the SSA found that the proposals of IM, Astrobotic, and Offeror A represented the best value. Id. The agency notified these three firms that they were selected for award. COS at 543. After receiving a post-award debriefing, DSS filed this protest.[3]

DISCUSSION

DSS alleges that the agency failed to perform the solicitation's required price realism analysis. The firm also challenges NASA's evaluation of both its and IM's proposals under the schedule and risk components of the likelihood of successful payload delivery factor. We have reviewed all of DSS's allegations, and, while we do not address all of them below, we find that none provide our Office with a basis to sustain the protest.[4]

[3] The estimated value of the awards exceeds $25 million. AR, Tab 10, SSDD, at 513. This procurement is thus within our jurisdiction to hear protests related to the issuance of orders under multiple-award IDIQ contracts valued over $25 million. 10 U.S.C § 2304c(e)(1)(B).

[4] DSS also argues that NASA's best-value tradeoff was unreasonable. Protest at 17. As detailed below, the record does not support DSS's challenges to the evaluation of proposals. We thus find no merit to DSS's challenges to the selection decision, insofar as DSS'S challenge to the selection decision is based on its underlying challenges to the evaluation of proposals. We also find nothing objectionable with NASA's selection of the lower-priced, technically-superior proposals of IM and the other awardees. See, e.g., Sevenson Environmental Servs., Inc., B-412676, et al., May 6, 2016, 2016 CPD ¶ 235 at 13 (an agency need not conduct a price/technical tradeoff where it has reasonably found the awardee's proposal lower-priced and technically superior).

Price Realism

DSS argues the solicitation required and NASA failed to conduct a reasonable price realism analysis. Protest at 11; Protester's Comments at 2-3. DSS contends that if NASA did conduct such an analysis, it only compared offerors' proposed prices to Space Exploration Technology Corp.'s (SpaceX) lowest-available commercial launch price, an inadequate analysis that fails to compare each offeror's proposed pricing to its technical approach. DSS also contends that an adequate price realism analysis would have found IM's price unrealistically low for its proposed approach, as the allegedly nascent nature of IM's approach would require substantial development testing.[5] Protester's Comments at 4. For the following reasons, we deny this aspect of the protest.

Where, as here, the issuance of a fixed-price task order under FAR subpart 16.5 procedures is contemplated, an agency is not required to perform a price realism analysis unless the solicitation so requires. Diamond Info. Sys., LLC, B-410372.2, B-410372.3, Mar. 27, 2015, 2015 CPD ¶ 122 at 10; Worldwide Info. Network Sys., Inc., B-408548, Nov. 1, 2013, 2013 CPD ¶ 254 at 7 n.2. We will review an agency's price realism evaluation only to determine whether it was reasonable and consistent with the solicitation requirements. Chameleon Integrated Servs., B-407018.3, B-407018.4, Feb. 15, 2013, 2013 CPD ¶ 61 at 6.

The record shows that NASA used multiple techniques to assess the realism of offerors' proposed prices. The agency explains that SpaceX advertised commercial launch services for approximately $52 million per launch for 2021. MOL at 4 (citing COS at 540). NASA states that it used this advertised price as a baseline estimate for launch services, cognizant that proposed prices below this amount would raise concerns about the realism of offeror's approaches. MOL at 9; COS, at 540. NASA states that it then crossed-checked offeror's prices against their technical approaches, including their proposed payment milestones. AR, Tab 10, SSDD, at 507-509; AR, Tab 6, DSS Proposal Evaluation at 415; AR, Tab 7, IM Proposal Evaluation at 422. NASA also reviewed offerors' prices for traceability to their technical approach for the purposes of measuring offerors' understanding and assessing risk of overall performance. AR,

[5] In its comments on the agency report, DSS identified $60 million as IM's proposed price for launching its lunar lander, and based collateral challenges to the price realism analysis on this figure. Protester's Comments at 4. This figure is based on DSS's consultant's estimation of IM's launch vehicle cost. Protester's Comments, Exhibit B, Consultant Report at 7. NASA countered that IM did not propose a $60 million dollar launch price and that this figure has no support in the record. Supp. Memorandum of Law (MOL) at 5. DSS did not respond to NASA's arguments in its comments on the supplemental memorandum of law. In our view, DSS has failed to provide our Office with a basis to question the price realism evaluation insofar as its allegations are based on this figure.

Tab 10, SSDD, at 507-509; AR, Tab 6, DSS Proposal Evaluation at 415; AR, Tab 7, IM Proposal Evaluation at 422. As a final measure, the SSA states that he compared offerors' prices to one another. AR, Tab 10, SSDD at 512-513.

NASA found IM's proposed price realistic, noting that it was consistent with the payment milestones in its technical proposal and with its technical schedule. AR, Tab 7, IM Proposal Evaluation at 422. NASA explains that it considered that IM's base price of approximately $77 million was more than the commercial launch price of $52 million. COS at 541. NASA also found that IM's technical approach clearly demonstrated how the firm could realistically deliver NASA payloads without an unacceptable risk of unsuccessful contract performance. AR, Tab 7, IM Proposal Evaluation at 422.

DSS contends that NASA's assertions that it conducted the required realism analysis are not borne out by the contemporaneous record. Protester's Supp. Comments at 3-5. DSS argues that the record does not support that the agency actually took a "tailored" approach to evaluating the realism of prices, and that the price analysis failed to take account of the relative maturity of offerors' respective technical approaches. Protester's Comments at 4; Protester's Supp. Comments at 4.

On this record, we have no reason to question the adequacy of NASA's price realism evaluation, or its conclusion that IM's proposed price was realistic in light of its specific technical approach. Although DSS challenges the propriety of NASA's use of SpaceX's $52 million commercially advertised launch price, it overlooks that this figure was just one means NASA used to establish a floor expectation for pricing. As detailed above, NASA used multiple additional techniques to assess the realism of offerors' prices. NASA represents, and the record shows, that it cross checked proposed prices against offeror's technical approaches to confirm that proposed prices were not so low as to present a risk of unsuccessful performance. AR, Tab 7, IM Proposal Evaluation at 422; COS at 13, 544. This is the hallmark of a price realism evaluation. See, e.g., Ruchman and Associates, Inc., B-415400 et al., Jan. 2, 2018, 2018 CPD ¶ 1 at 7 (analyzing whether an offeror's fixed price is so low that it reflects a lack of understanding of solicitation requirements is the crux of a price realism evaluation).

In effect, DSS contends that NASA should have additional contemporaneous documentation of the agency's price realism review for the review to be reasonable. We disagree. The contemporaneous realism analysis, embedded in NASA's evaluation of proposals and its SSDD, and supported by an independent price evaluation, AR, Tab 8, Price Evaluation, is sufficient for our Office to conclude that NASA's price realism evaluation was reasonable and consistent with the solicitation.[6]

[6] DSS's repeated assertions that NASA did not sufficiently assess the respective "maturity" of technical approaches represents DSS's disagreement with the nature and extent of NASA's price realism methodology, and does not provide our Office with a basis on which to sustain the protest. See SKE Italy Srl., B-414884.3, Jan. 24, 2018, (continued...)

Likelihood of Successful Payload Delivery Evaluation

DSS also argues that NASA unreasonably evaluated proposals under both the risk and schedule components of the likelihood of successful payload delivery factor. We note at the outset that the evaluation of proposals in a task order competition is a matter within the discretion of the contracting agency, and, in reviewing protests against allegedly improper evaluations, it is not our role to reevaluate proposals. Kellogg Brown & Root Servs., Inc., B-400614.3, Feb.10, 2009, 2009 CPD ¶ 50 at 4; Dynamic Sec. Concepts, Inc., B-416013, B-416013.2, May 15, 2018, 2018 CPD ¶ 186 at 4. Our Office examines the record to determine whether the agency's judgment was reasonable and in accordance with the evaluation factors set forth in the solicitation. Kellogg Brown & Root Servs., Inc., supra. A protester's disagreement with the agency's judgment, without more, does not render the evaluation reasonable. General Dynamics Land Sys., B-412525, B-412525.2, Mar. 15, 2016, 2016 CPD ¶ 89 at 11. For the reasons that follow, we find that DSS's allegations represent disagreement with NASA's evaluative judgments, which fail to provide our Office a basis to sustain the protest.

Risk Component

Under the risk component, offerors were required to define the key elements associated with their mission and to describe top risks and the related mitigation plans necessary to meet the proposed landing date. RFTP at 53. Offerors also were required to describe their approach for working with NASA to support payload integration, test, and launch efforts, and to operate NASA payloads, among other factors. Id. at 54.

At the outset, NASA explains that spaceflight is inherently risky, noting that "no [United States] commercial company has ever attempted to launch, transit, and land on the [moon]" and that "all proposed approaches received in response to the RFTP are unproven at this point in time." MOL at 11; 15. Based on this understanding, NASA highlights that the RFTP took account for such inherent risk by assigning a confidence rating based in large part on offerors' assessments of their own risk, as well as the steps the offerors would take to mitigate such risk. Supp. MOL at 7-8. Put differently, an offeror's awareness of the risk in its approach, as well as the steps it would take to mitigate such risk--as opposed to simply the absence of risk--would contribute to NASA's confidence in the offeror's approach.

(...continued)
2018 CPD ¶ 37 at 7 (citing BillSmart Solutions, LLC, B-413272.4, B-413272.5, Oct. 23, 2017, 2017 CPD ¶ 325 at 10; Citywide Managing Servs. of Port Washington, Inc., B-281287.12, B-281287.13, Nov. 15, 2000, 2001 CPD ¶ 6 at 4-5).

Risk Component--IM Proposal

DSS challenges NASA's assignment of a high confidence rating to IM's proposal under the risk component.[7] The agency found that IM's proposal clearly outlined all significant technical, management, and schedule risks and provided an exceptionally clear, feasible, and appropriate management approach for all significant risks. AR, Tab 7, IM Proposal Evaluation, at 421. NASA also found that IM's mission design clearly showed its ability to deliver NASA payloads to the moon. Id. That said, NASA was concerned by IM's plan to use a liquid oxygen and liquid methane (LOX/methane) propulsion approach. Id. NASA also stated that IM's proposal did not adequately explain how the firm would manage all aspects of thermal and cryogenic performance across all systems over the life of the mission, opining that "[i]mmature design models, unproven performance assumptions, or excessive fuel burn off might reduce mission margins below acceptable levels." Id. Relevant to DSS's challenges, NASA's evaluation stated:

> Although demonstrating LOX/Methane capability would advance the state of the art, using LOX/Methane for a full mission is unproven. The proposal did not provide depth on the extra mission planning steps needed to manage cryogenic fuels from launch pad operations through final deorbit burns at the Moon. Id.

NASA also noted that IM proposed a clear plan for integrating payloads and for working with NASA to complete integration and testing. Id. Overall, NASA found that IM demonstrated a good understanding of the scope of all task phases, as well as the associated risks, and concluded that it had high confidence in IM's proposal. Id.

DSS argues that IM's technical approach presented a significant risk of unsuccessful payload delivery. DSS's challenges to IM's propulsion approach can be categorized as follows: (1) LOX/methane propulsion is an immature and unproven technology, thus

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[7] A high confidence rating was defined as:

> The Offeror's proposal outlines all significant technical, management, and schedule risks. A well-developed risk management approach is provided for all significant risks. The mission design is very likely to deliver NASA payloads to the Moon and meet payload requirements with adequate margins/allocations. The Offeror has a plan for integrating payloads which is complete. The Offeror's plan shows where NASA engagement is necessary to support integration and testing. The Offeror's plan for ensuring hardware and data integrity is well defined. The offeror demonstrates good understanding of the necessary scope through all task phases and associated risks to complete the task of delivering NASA payloads to the moon.

RFTP at 51.

increasing risk of unsuccessful performance; (2) the LOX/methane approach requires cryo-fluid management, increasing risk due to the potential for fuel "boil-off" and; (3) IM's approach relies on "non-heritage parts," i.e., undeveloped materials and components that have not been used and validated in prior space exploration missions. Protester's Comments at 6-9. We address each of these critiques in turn.

First, DSS argues that IM's proposed lunar lander reflects a high risk approach to delivering a payload to the moon--as DSS casts it, an "untested, unproven and unconventional approach to spaceflight." Id. at 6. DSS states that "[m]ost commercial space vehicles, including [DSS's] proposed lunar lander, rely on a single fuel tank . . . that does not require an active ignition process," unlike IM's LOX/methane, two propellant approach. Id. DSS contends that the LOX/methane propulsion approach has not yet matured to allow for confident use of such a vehicle in space. Id.

NASA disagrees with DSS's characterization of IM's LOX/methane approach. NASA asserts that LOX/methane propulsion is a mature technology suitable for present use on space missions. AR, Tab 12, Technical Evaluator Declaration, at 518.[8] In fact, NASA considers it one of the most viable propulsion solutions for the Artemis moon lander scheduled to carry humans to the Moon in 2024. Id. NASA attests that this technical approach builds on 50 years of research and testing validating this approach. Id. at 518. NASA notes that it utilized a similar LOX/methane propulsion approach on its Morpheus lander, built for use on Earth using design and technology principles

[8] In support of the contemporaneous record, NASA provided declarations from a technical evaluator to respond to DSS's allegations. DSS challenges the probity of these supporting declarations, asserting that our Office typically disregards "post-hoc" rationalizations where the post-protest testimony is inconsistent with the contemporaneous record or seeks to supplement the record with a new justification for agency action. See Protester's Comments at 5 (citing Management Sys. Int'l. Inc., B-409415, Apr. 2, 2014, 2014 CPD ¶ 117 at 7). DSS's reliance on this decision is misplaced. As our Office has noted, in reviewing an agency's evaluation, we do not limit our review to contemporaneous evidence, but consider all of the information provided, including the parties' arguments and explanations. Sotera Def. Solutions, Inc., B-408587.2, et al., Mar. 20, 2014, 2014 CPD ¶ 103 at 6 n.2. While we generally give little weight to reevaluations and judgments prepared in the heat of the adversarial process, Boeing Sikorsky Aircraft Support, B-277263.2, B-277263.3, Sept. 29, 1997, 97-2 CPD ¶ 91 at 15, post-protest explanations that provide a detailed rationale for contemporaneous conclusions and simply fill in previously unrecorded details will generally be considered in our review of the rationality of selection decisions where those explanations are credible and consistent with the contemporaneous record. Peraton, Inc., B-417088, B-417088.2, Feb. 6, 2019, 2019 ¶ 190 at 11-12 (citing NWT, Inc.; PharmChem Labs., Inc., B-280988, B-280988.2, Dec.17, 1998, 98-2 CPD ¶ 158 at 16). We find NASA's declarations credible and consistent with the contemporaneous record.

applicable to lunar landers. Id. NASA highlights that Morpheus has had many successful flight tests, demonstrating the efficacy and maturity of this propulsion approach. Id.

Our review of the record shows that NASA reasonably explained why it has high confidence in IM's LOX/methane approach. In addition, we agree with NASA that DSS has taken out of context NASA's characterization of IM's approach as "unproven". The evaluation record states that "using LOX Methane for a full mission is unproven." AR, Tab 7, IM proposal Evaluation, at 421 (emphasis added). This statement reflects the fact that this approach has not been used for a full mission and is accounted for by NASA assigning IM's proposal the second-highest confidence rating. DSS's disagreement with NASA's judgment as to the state of this technology does not provide our Office with a basis to sustain the protest. See General Dynamics Land Sys., supra.

Second, DSS argues that IM's cryogenic approach introduces unique risks due to the necessity of cryo-fluid management. Protester's Comments at 8. For background, NASA explains that because the boiling points of LOX and liquid methane are -297 degrees Fahrenheit and -258 degrees Fahrenheit, respectively, they must be kept below these temperatures to keep them in a liquid state. AR, Tab 12, Technical Evaluator Declaration at 520. If the temperatures of these liquids rise above these points, they will turn to gas, or "boil-off." Id. Cryo-fluid management refers to the process of keeping the fuels at these very low temperatures to maintain them in a liquid state. Id.

According to DSS, cryo-fluid management introduces serious risks to IM's approach, warranting a lower confidence rating. DSS alleges that LOX and methane are volatile liquids that boil off unless actively refrigerated. Protester's Comments at 8. DSS also argues that these liquids are difficult to store and to transport from integration through launch operations and flight. Id. One of DSS's consultants opines that cryo-fluid management (and addressing the issue of boil-off), "is the most difficult task that the IM team is facing." Protester's Comments, Exhibit B, Consultant Report at 6. He states that IM's proposed lunar lander is particularly susceptible to challenges with cryo-fluid management due to its small size and the mission duration. Id. DSS notes that NASA itself identified the risk posed by cryogenic fuels and the resulting risk of fuel boil-off, arguing that IM's proposed mitigation approach--insulation--may be inadequate to prevent excessive boil off. Protester's Comments at 8-9.

NASA disputes the severity of the risk posed by boil-off and IM's need to perform cryo-fluid management. AR, Tab 12, Technical Evaluator Declaration at 520. NASA states that maintaining sufficiently cold temperatures for LOX and methane storage to prevent boil-off is relatively straightforward, explaining that for a mission using [Deleted], the best method of cryo-fluid management is simply insulating the liquids. Id. [Deleted] NASA notes that IM can simply insulate the tanks holding the two fluids. Id. NASA concluded that cryo-fluid management was a risk, but considered it a "manageable risk" for IM. Supp. Declaration at 5.

We find that DSS's challenges in this regard represent disagreement with the agency's judgment over the nature of the risk posed by appropriate cryo-fluid management, which is insufficient for our Office to sustain the protest. General Dynamics Land Sys., supra. The record shows that NASA was aware of the risk associated with IM's need to perform proper cryo-fluid management, and noted that IM's proposal could have benefited from a more thorough discussion of how it would perform this task over the course of the mission. Still, NASA concluded that the ease with which this risk could be mitigated did not warrant a lower confidence rating.

Finally, DSS argues that IM's reliance on what DSS terms "non-heritage" parts creates a significant risk of an unsuccessful launch. Protester's Comments at 9. DSS explains that parts identified as "heritage" indicate that these parts and materials have a history of being used in space exploration missions. Id. According to DSS's consultant, reliance on non-heritage parts introduces risk because these materials might not "perform at the level that was expected or their reliability will not be at a level that is required for the mission." Id. (citing Protester's Comments, Exhibit B, Consultant report at 7).

Again, we find that this allegation solely represents DSS's disagreement with the agency's judgment. While NASA acknowledges that using fewer "heritage components" introduces certain risk for IM's proposal, NASA explains that this risk is not so great that NASA has any less technical confidence in IM's solution. Supp. Declaration at 7. NASA also notes that IM was cognizant of this risk and included mitigation approaches in its proposal. Id. (citing AR, Tab 5, IM Proposal at 375). While DSS's consultants have opined that utilizing fewer heritage parts introduces substantial risk, they have failed to show that the agency's evaluation under this factor was unreasonable.

Risk Component--DSS Proposal

DSS also challenges NASA's assignment of a moderate[9] confidence rating to its proposal under the risk component. NASA found that DSS's proposal outlined most

[9] The RTFP defined a "[m]oderate" confidence rating under this component as:

> The Offeror's proposal outlines most significant technical, management, and schedule risks. Adequate risk management approaches are provided for most of the risks. The mission design is adequate to deliver NASA payloads to the Moon and meet payload requirements. The Offeror's plan for integrating payloads is adequate. The Offeror's plan demonstrates aware that NASA will have roles in integration testing. The Offeror's plan for ensuring hardware and data integrity is adequate. The Offeror has demonstrated an understanding of most of the necessary scope through all task phases and has identified the more significant risks associated with the task of delivering NASA payloads but may need to improve their overall planning of scope and risk management process to ensure

(continued...)

significant technical, management, and schedule risks. AR, Tab 6, DSS Proposal Evaluation, at 414. NASA also found that DSS failed to identify or propose mitigation measures associated with its pulse-mode thruster approach and the attendant risk of "slosh" on thruster performance.[10] The agency also noted that failure to acknowledge this as a potential risk could impact its ability to successfully deliver NASA payloads. Id. NASA concluded that while DSS's proposal detailed an adequate payload integration plan, the plan lacked depth about the analysis activities related to ensuring that NASA payloads survive integration and testing work. Id.

DSS contends that it did not identify any risks associated with its pulse mode thrusters because "no discernable risks are associated with this approach." Protest at 17. DSS also argues that its proposal called for using the same monopropellant thrusters that were used successfully for the Mars Phoenix and Mars InSight Landers, the efficacy of which eliminated the need to discuss slosh as a risk. Id. The firm also contends that it proposed to use a propellant management device (PDM) to mitigate propellant movement, i.e., slosh. Id.

A protester's disagreement with the agency's judgment, without more, does not render the evaluation reasonable. General Dynamics Land Sys., supra; Kellogg Brown & Root Servs., Inc., supra. An offeror has an obligation to include sufficient information in its proposal for the agency to determine the proposal would meet its needs; it is not the agency's obligation during the evaluation process to fill in the gaps. Incident Catering Servs. LLC, B-296435.2, et al. Sept. 7, 2005, 2005 CPD ¶ 193 at 5-6 n.6. An offeror risks having its proposal evaluated unfavorably where it fails to submit an adequately written proposal. Recon Optical, Inc., B-310436, B-310436.2, Dec. 27, 2007, 2008 CPD ¶ 10 at 6.

NASA explains that in its view, DSS's pulse-mode thruster approach carries substantial risk of slosh which DSS neither identified nor discussed. MOL at 14; AR, Tab 12, Technical Evaluator Declaration at 521. NASA acknowledges that DSS proposed the

(...continued)

successful payload delivery.

RFTP at 51.

[10] NASA explains that pulse-mode thrusters operate by turning on and off in quick succession while in operation. AR Tab 12, Technical Evaluator Declaration, at 522. This turning on and off, i.e., pulsing, can cause the propellant in the main tank to move from side to side. Id. This movement is referred to as "slosh." Id. NASA explains that if slosh is minimal, a vehicle's attitude control system has the capacity to correct for small shifts in the center of gravity. Id. But excessive slosh--large shifts in the vehicle's center of gravity--can overcome the vehicle's attitude control system, which could result in the vehicle losing control. Id. NASA also notes that the potential risk from slosh increases as tank volume increases. Id.

same pulse-mode thruster approach that was used on the Phoenix and Insight landers, but notes that DSS's proposed lander would carry over six times as much propellant as either of these landers, with the larger fuel tank in turn significantly increasing the risk of slosh. AR, Tab 12, Technical Evaluator Declaration at 522.

While DSS's proposed PMD provides some slosh attenuation, NASA explains that slosh attenuation is not the main function of a PMD. Id. at 523. Instead, NASA explains that a PMD's main function is to wick propellant into the fuel lines in zero-gravity or micro-gravity, to allow the thrusters to ignite. Id. NASA asserts that DSS's proposal did not provide data to allow NASA to assess whether the PMD will provide sufficient slosh attenuation, or whether additional slosh mitigation devices will be needed, such as a diaphragm tank or "slosh baffles."[11] MOL at 14; AR, Tab 12, Technical Evaluator Declaration at 523.

DSS replies that its discussion of "performance shortfall of mono prop single stage propulsion" effectively identified the risks attendant to propellant slosh in its approach. Protester's Comments at 12. DSS also maintains that it does not consider slosh a serious risk and that, as NASA noted, it can simply use baffles or a different tank to mitigate slosh without tremendous impact on its design or delay to its schedule. Id. at 12-13.

NASA counters that it considers propellant slosh a serious risk with DSS's approach; one that could have "catastrophic consequence[s]." Supp. Declaration at 2. As for DSS's assertions that it addressed the risks posed by slosh in its discussion of "performance shortfall of mono prop single stage propulsion," NASA states that this cited language refers to underperformance in the propulsion system, such as inefficient fuel combustion--not propellant slosh. Supp. MOL at 8; Supp. Declaration at 1. NASA also explains that, while it did suggest baffles or a new tank as potential risk mitigation measures, these, by themselves, would likely be insufficient. Supp. Declaration at 2. As a result, DSS's failure to acknowledge the risk posed by slosh, let alone propose simple mitigation measures, inspired no more than moderate confidence in its approach. Id.

We have reviewed the record and find no basis to sustain DSS's protest. The risk component of the solicitation required the agency to consider whether there was risk associated with an offeror's technical approach, the offeror's cognizance of this risk, and the steps the offeror would take to mitigate such risk. Against that evaluation criteria, DSS gave no indication that it had identified or considered slosh a major risk, and included no mitigation measures. Id. DSS's failure to acknowledge the risk--which NASA maintains is substantial--let alone propose mitigation, provides a reasonable basis for NASA's risk concerns.

[11] "Slosh baffles" are structures placed along the inside of the propellant tank wall that inhibit the formation of waves in the propellant, thereby reducing slosh. AR, Tab 12, Technical Evaluator Declaration at 524.

We also have no basis to question NASA's conclusion that DSS's proposal's discussion of "performance shortfall of mono prop single stage propulsion" did not address this concern. See Incident Catering Servs. LLC , supra; Recon Optical, Inc., supra; (an offeror risks having its proposal evaluated unfavorably where it fails to submit an adequately written proposal). Even as DSS argues that the risk posed by slosh is overstated, its own consultant agrees that slosh should be considered a risk and merely disagrees with the severity of this risk. Protester's Comments, Exhibit A, Consultant Declaration at 7 (" I concur with NASA that Deep Space's overall propulsion system design, as presented in the proposal has a weakness . . . the propulsion system incorporates a more conventional spacecraft propellant tank that lacks propellant slosh control devices . . ."). On this record, the protester's disagreement with the agency's assignment of a moderate confidence rating does not provide our Office with a basis to sustain its protest. See Enterprise Servs. LLC, B-415517, B-415517.2, Jan.18, 2018, 2018 CPD ¶ 83 at 10.

Schedule Component

DSS next challenges the agency's evaluation of proposals under the schedule component of the likelihood of successful payload delivery factor. DSS contends that the agency unreasonably had high confidence in IM's ability to successfully deliver a lunar payload by its proposed landing date. DSS also argues that it was unreasonable for NASA to have no more than moderate confidence in DSS's proposal under this component. For the reasons that follow, we find that these allegations fail to provide our Office a basis to sustain the protest.

To be technically acceptable, offerors were required to propose a lunar landing date no later than December 31, 2021. RFTP at 46. Under the schedule component of the likelihood of successful payload factor, NASA was to evaluate offerors' understanding of the sequence of activities that must be completed to successfully deliver payloads by the proposed landing date. Id. at 50. NASA required that proposals provide a definition of key schedule milestones and major activities necessary to integrate, transport, and land payloads on the lunar surface by the proposed landing date. Id. at 53. NASA was to evaluate proposals' schedule component based on whether the proposed schedule was clear, complete, with clearly defined and appropriately sequenced milestones. Id. at 50.

Schedule Component--IM Proposal

As stated above, DSS challenges NASA's assignment of a high confidence[12] rating to IM's proposal under this component. AR, Tab 7, IM Proposal Evaluation, at 420-421.

[12] The RTFP defined a "[h]igh" confidence rating under this component as:

> The Offeror's schedule is clear and complete. Every milestone is defined and the sequence is appropriate. The time between all milestones is adequate to perform
(continued...)

NASA found that IM's proposed schedule was clear, every milestone was defined, and the sequence was appropriate. Id. at 420. NASA did note that while IM's plan for utilizing LOX/Methane appeared to have been well thought out, the testing and analysis was not well defined and there were not clear milestones associated with necessary testing. Id. Overall though, NASA found that IM demonstrated a clear understanding of the sequence of activities that must be completed to successfully deliver payloads by IM's proposed landing date. Id. at 421.

DSS disagrees with NASA's confidence assessment for IM's proposal given that the agency concluded that IM failed to describe clear milestones for testing associated with its LOX/methane approach, and argues that it was unreasonable for NASA to have high confidence in IM's ability to meet its proposed launch date of July 2021. DSS contends that IM's ability to meet the 2021 deadline is "fanciful" and "essentially nil" due to its reliance on non-heritage parts, among other factors, including IM's alleged need to perform systems engineering and integration work. Protester's Comments at 11; Exhibit B, Consultant Report at 7.

On this record, we have no basis to question the agency's evaluation of IM's proposal. The record shows that NASA found IM's schedule clear, appropriately sequenced and well defined. AR, Tab 7, IM Proposal Evaluation, at 421. We also agree with NASA that DSS's challenges are derivative of its disagreement with the propriety of IM's technical approach, such as its alleged over-reliance on "non-heritage" parts and the challenges associated with cryo-fluid management discussed above. While NASA found IM's discussion of its testing schedule wanting, NASA highlights that this resulted in the agency only having high confidence in IM's proposal under this component, as opposed to very high confidence. MOL at 16.

Schedule Component--DSS Proposal

DSS also challenges the moderate[13] confidence rating assigned to its proposal under the schedule component. NASA found that DSS's proposed schedule was clear and

(...continued)

> described activities. Scheduled reviews and checkpoints are defined. Schedule margin is clearly identified and adequate to ensure meeting the schedule. The Offeror demonstrates a clear understanding of the sequence of activities that must be completed to successfully delivery [sic] payloads by the proposed landing date.

RFTP at 50.

[13] The RFTP defined a "[m]oderate" confidence rating under this component as:

> The Offeror's schedule is clear, and the sequence of milestones is appropriate. Critical milestones are identified and defined. There is adequate time between most critical milestones. Scheduled reviews and checkpoints are defined. Schedule margin is identified but may not be adequate if significant problems

(continued...)

had well-defined milestones and an appropriate sequence. AR, Tab 6, DSS Proposal Evaluation, at 413-414. Yet NASA's evaluation team did have several concerns. NASA found that there was a system critical design review five months after award, but no preliminary design reviews. Id. NASA also had concerns with DSS's "rideshare" approach. DSS proposed to launch and land in mid-December 2021, but also proposed its launch as a secondary payload utilizing a rideshare approach, which NASA understood to imply that DSS would not actually be in control of its launch date. Id. at 414. NASA concluded that this created risk that DSS would not meet the December 31, 2021 deadline. Id. Finally, NASA's evaluation documented concerns that DSS's placement of important software development milestones during the schedule margin increased the risk of a potential schedule slip. Id.

DSS argues that it was unreasonable for NASA to have no more than moderate confidence in its ability to successfully land a lunar payload by December 2021. Protester's Comments at 13-15. With regard to NASA's preliminary design review criticisms, DSS argues that such review would be performed "in-house," and that it only included a design review milestone in its proposal for the purpose of allowing NASA to provide feedback. Id. at 14. In response to NASA's criticism of its rideshare approach, DSS contends that this approach gives the firm several options to select a vehicle to ensure a timely launch by the December 2021 deadline. Id. at 13. In addition, DSS argues that NASA's critique that DSS's proposal did not contain sufficient discussion of previously completed design work demonstrates that NASA did not understand its proposed lunar lander system, as its "components have been used consistently, safely and successfully in hundreds of space missions." Protest at 16.

We find no merit to this aspect of the protest. NASA concluded that DSS's lack of preliminary design review milestone was a significant issue and DSS's proposal was silent on its purported intent to perform this work "in-house," suggesting to NASA that there was limited previously completed design work. NASA also documented its concern that DSS's plan to launch as a rideshare payload, as opposed to the primary payload, would result in DSS having less control over the launch schedule. MOL at 11; Supp. MOL at 10-11.

The agency also responds that simply utilizing heritage hardware does not guarantee a well-designed system. MOL at 13. NASA asserts that this line of argument reflects DSS's lack of appreciation of the importance of the integration process, explaining that successfully building a lunar lander is more than "an amalgamation of heritage components." Id. at 12. NASA explains that while this integration work is typically

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(...continued)

> occur. The Offeror demonstrates a clear understanding of the sequence of activities that must be completed to successfully deliver payloads by the proposed landing date.

RFTP at 50.

performed well in advance of a system critical design review, DSS proposed only five months to fully integrate its design. Id. On this record, we find that NASA has explained why it reasonably had only moderate confidence in DSS'S proposal under the schedule component.

Disparate Treatment

Finally, DSS argues that NASA's evaluation favored IM's proposal. Protester's Supp. Comments at 5-8. To support this contention, DSS cites to NASA's evaluation of respective proposals under the risk component. DSS notes that the agency's concern with DSS's failure to identify risks associated with slosh led the agency to assign DSS' proposal a moderate confidence rating. Conversely, the agency assigned IM's proposal high confidence despite NASA's evaluation finding that IM's proposal failed to adequately explain how the firm would manage thermal and cryogenic performance during the course of the mission. Id. at 7. DSS also argues that NASA disparately evaluated proposals under the schedule component, asserting that NASA unreasonably concluded that it has greater confidence in IM's ability to meet its scheduled launch date. Id. at 8.

It is a fundamental principle of federal procurement law that a contracting agency must treat all offerors equally and evaluate their proposals evenhandedly against the solicitation's requirements and evaluation criteria. Cubic Applications, Inc., B-411305, B-411305.2, July 9, 2015, 2015 CPD ¶ 218 at 7; Rockwell Elec. Commerce Corp., B-286201 et al., Dec. 14, 2000, 2001 CPD ¶ 65 at 5. Where a protester alleges unequal treatment in a technical evaluation, it must show that the differences in rating did not stem from differences between the offerors' proposals. Raytheon Co., Space & Airborne Sys., B-411631, Sept. 16, 2015, 2015 CPD ¶ 361 at 8.

We find no merit to this allegation. IM and DSS proposed different approaches for achieving successful lunar payload delivery and their different confidence ratings stem from these different approaches. As discussed extensively above, DSS's challenges have failed to provide our Office with a basis to question the reasonableness of NASA's higher confidence in IM's ability to successfully deliver lunar payloads. The record here shows that NASA's assessment of proposals is the result of reasonable conclusions about the agency's respective confidence in approaches between the two firms. See AMTIS-Advantages,LLC, B-411623, B-411623.2, Sept. 16, 2015, 2015 CPD ¶ 260 at 6 (denying disparate treatment allegation premised on an improper "apples and oranges" comparison of the offerors' proposals).

The protest is denied.

Thomas H. Armstrong
General Counsel