

Congress of the United States
House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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September 29, 2021

The Honorable Bill Nelson
Administrator
National Aeronautics and Space Administration
300 E Street S.W.
Washington, D.C. 20546

Dear Administrator Nelson:

We request that NASA delay the issuing of a final RFP for space suits until the agency fully responds to the to the relevant Inspector General recommendations and provide accountability for managing the space suit services approach under NASA's new human exploration management organization. NASA's human exploration activities on the International Space Station in low Earth orbit and its planned deep space exploration activities to the Moon and Mars rely on spacesuits. Spacesuits support the health and safety of the NASA crew during launch, reentry, and especially during space walks and surface operations when spacesuits provide essential life support and protection for the astronauts.

NASA is developing an advanced spacesuit to upgrade the aging suits used on the International Space Station (ISS) in addition to developing capabilities that can enable surface operations and be used for future missions under the Artemis initiative. Action in replacing spacesuits for the ISS has been a recommendation of the Aerospace Safety Advisory Panel (ASAP). In its 2019 Annual Report, the ASAP recommended that:

“NASA should begin an immediate transition to a next-generation Extra Vehicular Activity (EVA) suit system (EMUs) before the risk to EVA becomes unmanageable. ...

The ASAP also stated:

“It remains unclear to the Panel how NASA is balancing the needs for a lunar suit with the increasing urgency of replacing the space suits on the ISS as they establish the prototype project for the xEMU. A structured space suit program, articulating such

details, including a budget, schedule with critical milestones, and both the authority and responsibility to produce this critical capability, is recommended. Anything less than full, robust program-level attention to this system reduces the potential to not only field the capability but do so in a safe manner.”

As of early 2021, NASA had plans to continue developing an advanced spacesuit in-house and rely on industry to manufacture it.¹ According to a NASA Inspector General report on “NASA’s Development of Next-Generation Spacesuits” issued on August 10, 2021, NASA’s space suit development program has experienced significant delays, due to funding shortfalls, technical challenges, and impacts from the COVID-19 pandemic. These challenges have pushed back the availability of an advanced exploration space suit until at least 2025.²

In April 2021, NASA abruptly changed its acquisition approach to pursue a suits as a service model in which it would purchase spacesuit services from industry, who would own, maintain, and support training for the spacesuits. NASA plans to issue requirements for a spacesuit and make available to industry NASA spacesuit technical data that could be used in an industry-developed suit. According to the NASA Inspector General report, NASA is pursuing this approach to further its goals of “nurturing the commercial space industry.”

NASA’s draft Request for Proposals (RFP) for the Exploration Extravehicular Activity Services issued on July 27, 2021 notes that NASA plans to pursue the suit development that provides the best value to the Government. The draft RFP notes the “price factor is approximately equal to the combined importance of the Mission Suitability factor and Past Performance Factor.” While we appreciate NASA’s interest in pursuing value to the government in its space systems, we have questions as to whether a focus on “price factor” could affect safety. We are also concerned about the extent to which there is a commercial market for spacesuit services pursuant to 51 U.S.C. 50503 and 51 U.S.C. 30301, and whether or not the overall complexity and risks of pursuing the services model for procuring a unique and rare national capability like spacesuits have been fully explored.

In addition, the recently released NASA Inspector General report states that:

“... with the evolving and competing requirements of the xEMU’s stakeholder programs and the Agency’s uncertainties about mission priorities, NASA is at risk of awarding a contract without clearly defining key technical requirements. Additionally, NASA has yet to formalize its acquisition strategy for next-generation spacesuits. ... Awarding a contract before technical requirements and an acquisition strategy are solidified could result in numerous modifications to the contract, increasing cost and schedule.”

In that regard, the Inspector General report recommends that NASA “[e]nsure technical requirements for the next-generation suits are solidified before selecting the acquisition strategy to procure suits for the ISS and Artemis programs” and “[d]evelop an acquisition strategy for the

¹ Advanced Space Suit Capability Plan Pursuant to Section 433 of the NASA Transition Authorization Act of 2017 (P.L. 115-10), NASA, June 2017.

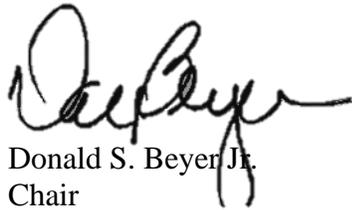
² NASA’s Development of Next-Generation Spacesuits, NASA Office of the Inspector General, Report No. IG-21-025, August 10, 2021. Accessed at <https://oig.nasa.gov/docs/IG-21-025.pdf>

next-generation space suits that meets the needs of both the ISS and Artemis programs.” Those recommendations are estimated to be completed by October 2021.

We understand that NASA’s intent is to release a final RFP in the very near term. Before NASA issues a final RFP for spacesuits, we request that the agency fully respond to the relevant Inspector General recommendations and that the accountability for managing the spacesuit services approach under NASA’s new human exploration management organization be explained. Congress will want to examine the acquisition strategy accordingly. Failure to adequately address these outstanding concerns could lead to further delays, as experienced with the protests to the Human Lander Services contract and the previous Constellation Space Suit System contract.³ We also request that NASA communicate any change in acquisition approach, including responsibilities related to liability, safety, and mission success, to the public and all relevant stakeholders prior to finalizing an acquisition strategy. We must understand the risks and who is responsible for mitigating them.

Thank you for your consideration of this matter. Please respond no later than October 30, 2021.

Sincerely,



Donald S. Beyer Jr.
Chair
Subcommittee on Space and Aeronautics
Aeronautics



Brian Babin
Ranking Member
Subcommittee on Space and

³ https://www.nasa.gov/home/hqnews/2008/aug/HQ_08053_Spacesuit_Protest.html