

Committee on NASA Mission Critical Workforce, Infrastructure, and Technology

Meeting No. 16

December 4, 2023

Virtual Meeting

ALL TIMES IN US EASTERN STANDARD TIME (UTC-4:00)

AGENDA

MONDAY, DECEMBER 4, 2023

OPEN SESSION

Livestream Link: <https://vimeo.com/event/3924129>

11:00 AM **Introductory Remarks** *Mr. Norm Augustine, Committee Chair*

Moderator: Dr. Edward Crawley, Committee Member

11:05 AM **Crew health / Human health (in-space)** *Mr. James Broyan, ECLSS-CHP Systems Capability, Leadership Team Lead*
(5 min presentation, 10 min Q&A)

11:20 AM **Radiation Safety / Human Health (Radiation)** *Mr. James Broyan, ECLSS-CHP Systems Capability, Leadership Team Lead*
(5 min presentation, 10 min Q&A)

11:35 AM **Environmental control and life support systems (ECLSS)** *Mr. James Broyan, ECLSS-CHP Systems Capability, Leadership Team Lead*
(5 min presentation, 10 min Q&A)

11:50 AM --Short break, transition to next segment

Moderator: Gen. Lester Lyles, Committee Member

11:55 AM **ESDMD Quick Summary** *Ms. Lakeisha Hawkins, Assistant Deputy Associate Administrator For the Moon to Mars (M2M) Program Office, NASA HQ*
(5 min presentation)

12:00 PM **Heavy-lift launch vehicles / Orion, SLS** *Ms. Lakeisha Hawkins, Assistant Deputy Associate Administrator For the Moon to Mars (M2M) Program Office, NASA HQ*
(5 min presentation, 10 min Q&A)

12:15 PM **Exploration Ground Systems and Gateway** *Ms. Lakeisha Hawkins, Assistant Deputy Associate Administrator For the Moon to Mars (M2M) Program Office, NASA HQ*
(5 min presentation, 10 min Q&A)

12:30 PM **Extravehicular activity suits (EVA), Rovers, and Human Landing System** *Ms. Lakeisha Hawkins, Assistant Deputy Associate Administrator For the Moon to Mars (M2M) Program Office, NASA HQ*
(5 min presentation, 10 min Q&A)

12:45 PM --Short break, transition to next segment

Moderator: Dr. Richard Obermann, Committee Member

12:50 PM **Mars Entry Descent and Landing** *Ms. Michelle Munk, STMD Chief Architect (Acting), EDL System Capability Lead; Dr. Michael Wright, Senior Research Scientist, Ames Research Center*
(5 min presentation, 10 min Q&A)

1:05 PM	In-space Propulsion and Power / Nuclear Propulsion (5 min presentation, 10 min Q&A)	Mr. John Dankanich, NASA In-Space Transportation System Capability Lead; Dr. Anthony Calomino, Research Engineer, NASA Langley and Glenn Research Centers
1:20 PM	Planetary ascent vehicles / On-orbit servicing, cryogenics (5 min presentation, 10 min Q&A)	Mr. Bo Naasz, NASA Rendezvous and Capture System Capability Lead; Mr. John Dankanich
1:35 PM	ISRU (gas and solid) (5 min presentation, 10 min Q&A)	Mr. Jerry Sanders, NASA ISRU System Capability Lead; Dr. Julie Kleinhenz, ISRU System Capability Deputy, NASA
1:55 PM	Concluding remarks (5 min discussion)	Mr. Norm Augustine, Committee Chair
2:00 PM	Meeting Adjourns for the Day	

The following information is provided for any members of the general public who may be in attendance:

This meeting is being held to gather information to help the committee in its charge. This committee will examine the information and material obtained during this, and other public meetings, in an effort to inform its work. Although opinions may be stated and lively discussion may ensue, no conclusions are being drawn nor will recommendations be made. Observers who draw conclusions about the committee's work based on this meeting's discussions will be doing so prematurely.

Furthermore, individual committee members often engage in discussion and questioning for the specific purpose of probing an issue and sharpening an argument. The comments of any given committee member may not necessarily reflect the position he or she may actually hold on the subject under discussion, to say nothing of that person's future position as it may evolve in the course of the project. Any inference about an individual's position are therefore also premature.

STATEMENT OF TASK

Committee Organized on February 2023

The National Academies of Sciences, Engineering, and Medicine (NASEM) will appoint an ad hoc committee to conduct a high-level review of NASA's workforce, infrastructure, and technological capabilities that are most relevant to the strategic goals specified in NASA's 2022 Strategic Plan and other key guiding documents. The committee will consider emerging technologies in selected engineering and science disciplines as well as critical facilities needed, and workforce skills required to perform and support the work of the mission directorates, both now and in the future.

The committee will pay particular attention to critical areas of NASA-wide interest that cross mission directorate boundaries, and the critical mission support underpinning mission accomplishments. The committee will make prioritized recommendations on actions needed to better align NASA's engineering and science workforce, skills, physical and systems infrastructure, and technologies with NASA's mission objectives and strategic goals. Recommendations will address improvements and additions to modeling capabilities, critical infrastructure, test facilities, and support required to perform the work.

The scope of the study will include all NASA mission directorates, including the Mission Support Directorate.