

*The National Academies of*  
**SCIENCES • ENGINEERING • MEDICINE**

DIVISION ON ENGINEERING AND PHYSICAL SCIENCES  
AERONAUTICS AND SPACE ENGINEERING BOARD

**Committee on NASA Mission Critical Workforce, Infrastructure, and Technology**

**Meeting No. 6**

**July 27-28, 2023**

**NASA Marshall Space Flight Center, Building 4221, Marshall Road, Huntsville, Alabama 35808**

**Hybrid Site Visit**

**ALL TIMES IN US CENTRAL DAYLIGHT TIME (UTC-5:00)**

This agenda is a draft, subject to change, and was last updated on 7/24/2023 3:50 PM

**AGENDA**

**THURSDAY, JULY 27, 2023**

**OPEN SESSION**

*LIVE-STREAMED FOR PUBLIC ACCESS*

Livestream Link: <https://vimeo.com/event/3561050>

- |                 |  |                                  |
|-----------------|--|----------------------------------|
| <b>8:30 AM</b>  | <b>Welcoming Remarks and Introductions</b><br>(5-minute remarks and introductory comments)   | <b>Mr. Norm Augustine, Chair</b> |
| <b>8:35 AM</b>  | <b>Marshall Space Flight Center Overview</b><br>(60-minute presentation)   | <b>TBD</b>                       |
| <b>9:35 AM</b>  | <b>Break</b><br>(10-minute break)  |                                  |
| <b>9:45 AM</b>  | <b>Listening Session 1: NASA-MSFC Early Career Employees</b><br>(60-minute listening session)<br><b>Participants:    Group of Early Career Employees</b> |                                  |
| <b>10:45 AM</b> | <b>Break to Begin Tour of MSFC Complex</b>   |                                  |

**TOUR SESSION**

*TOURS WILL NOT BE LIVE-STREAMED FOR PUBLIC ACCESS*

- |                 |  |
|-----------------|--|
| <b>10:45 AM</b> | <b>Tour Begins from Building 4221</b><br><b>Building 4203</b><br>Tour Stop |
|-----------------|--|

11:00 AM      *Tour Pauses for Lunch*

**12:00 PM      Tour Resumes**  
         **Nuclear Thermal Rocket Element Environmental Simulator (NTREES)**  
              *Tour Stop*  
         **Cryogenic Fluid Management (CFM)**  
              *Tour Stop*  
         **Mars Ascent Vehicle (MAV)**  
              *Tour Stop*  
         **System Integration Lab/ System Integration Test Facility (SIL/SITF)**  
              *Tour Stop*

1:25 PM      *Tour Pauses, Committee Returns to Building 4221*

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**1:35 PM      Listening Session 2: NASA-MSFC Mid-Career/Supervisor Listening Session**  
              (60-minute listening session)  
         **Participants:      Group of Mid-Career/Supervisor Employees**

2:35 PM      *Continue Tour of NASA-MSFC*

#### TOUR SESSION

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**3:15 PM      Tour Resumes from Building 4221**  
         **Huntsville Operations Support Center (HOSC)**  
              *Tour Stop*  
         **Payload Operations Integration Center (POIC)**  
              *Tour Stop*  
         **Habitation Systems**  
              *Tour Stop – In Gallery*  
         **Lunar Control Area (LUCA)**  
              *Tour Stop*  
         **LUCA Data Science**  
              *Tour Stop*  
         **West Testing Area**  
              *Driving Tour*  
         **East Testing**  
              *Driving Tour*  
         **V20 Chamber**  
              *Tour Stop*

**Kinematic Navigation and Cartography Knapsack (KNack) Demonstration**  
*Tour Stop*

*4:50 PM      Tour Concludes for the Day*

**FRIDAY, JULY 28, 2023**

**TOUR SESSION**

*TOURS WILL NOT BE LIVE-STREAMED FOR PUBLIC ACCESS*

**8:00 AM**      **Tour Resumes from Building 4221**  
                 **Straylight Test facility (SLTF)**  
                 *Tour Stop*  
                 **Environmental Control & Life Support Systems Hardware in the Loop (ECLSS HITL)**  
                 *Tour Stop*  
                 **Additive with In-Space Manufacturing**  
                 *Tour Stop*

**9:20 AM**      *Tour Concludes for the Day; Committee Prepares for Open Session*

**OPEN SESSION**

*LIVE-STREAMED FOR PUBLIC ACCESS*

*Livestream Link: <https://vimeo.com/event/3561070>*

**9:45 AM**      **Listening Session 3: NASA-MSFC Leadership Listening Session**  
                 (60-minute listening session)  
**Participants:**      **Group of NASA-MSFC Senior Leadership**

**10:45 AM**      **Closing Remarks and Closeout Session with Senior Leadership**  
                 (30-minute discussion session)

**TBD**

**11:15 AM**      *Committee Breaks into Closed Session Discussion*

**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.

If you would like to join the meeting in-person, please contact the staff officer Daniel Nagasawa ([dnagasawa@nas.edu](mailto:dnagasawa@nas.edu)) by Friday, 21 July 2023 to arrange attendance and further details.

**NOTES FOR PRESENTERS**

Your presentation may not include unpublished data, ITAR controlled and/or other sensitive information.

At some point a staff member will be asking you to sign a consent form allowing us to use your presentation, specifically to post it on our website.

\* Placeholder Title – To Be Updated by Speaker

3:50 PM  
07/24/23

## 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.