NASA AEROSPACE SAFETY ADVISORY PANEL

National Aeronautics and Space Administration
Washington, DC 20546
Lieutenant General Susan J. Helms, *Chair*

THIRD QUARTERLY MEETING MINUTES

September 19, 2025

The Aerospace Safety Advisory Panel (ASAP) held its 2025 Third Quarterly Meeting in-person at NASA's Headquarters, July 28-31, 2025, with the public meeting on September 19, 2025.

The Panel submits the enclosed Minutes resulting from the public meeting.

AEROSPACE SAFETY ADVISORY PANEL
Public Meeting
September 19, 2025
Teleconference

2025 Third Quarterly Meeting Report

ASAP Panel Member Attendees
Lieutenant General Susan J. Helms, USAF (Ret), Chair
Mr. William Bray
Dr. Amy Donahue
Mr. Paul S. Hill
Ms. Katharina McFarland
Mr. Charlie Precourt
Mr. Kent Rominger
Dr. Mark N. Sirangelo
Dr. Richard S. Williams, MD, FACS

ASAP Staff and Support Personnel Attendees
Ms. Carol Hamilton, NASA ASAP Executive Director
Ms. Ashley Mae, Tom & Jerry, Inc, Technical Writer

Appendix A – Teleconference Attendees

Ms. Carol Hamilton, Aerospace Safety Advisory Panel (ASAP) Executive Director, called the meeting to order at 3:00 p.m. Eastern Standard Time (EST) and welcomed everyone to the ASAP's Third Quarterly Meeting of 2025, held at the National Aeronautics and Space Administration's (NASA) Headquarters. The Federal Register notice provided an opportunity for public input; however, no submissions were received. Ms. Hamilton clarified that while public comments would be permitted at the meeting's conclusion, questions would not be entertained. With this, she handed the meeting over to Lieutenant General (LTG) Susan Helms, the ASAP Chair.

LTG Helms outlined the scope of the Panel's July deliberations. Key topics included NASA's evolving acquisition and contracting strategies, budget challenges, meetings with senior leadership on safety and risk, technical lessons from Boeing's Starliner mission, and updates on the Moon-to-Mars (M2M) program. She emphasized that acquisition and contract strategy is a new focus area for the Panel, given its direct relationship to risk management. She also noted the follow-up trip by Panel members Mr. Paul Hill, Mr. Kent Rominger, and Mr. Charlie Precourt to SpaceX facilities in Boca Chica, Texas.

Mr. Paul Hill provided a detailed account of the August 7, 2025 visit. The team received briefings from SpaceX leadership including Mr. Bill Riley (VP of Starship Engineering), Ms. Aarti Matthews (Starship Human Landing System (HLS) Program Manager), and Mr. Bill Gerstenmaier (VP of Build and Flight Reliability). Mr. Hill noted that the HLS schedule appears

significantly challenged, with Artemis III's target date of 2027 likely to slip by years. He emphasized that on-orbit cryogenic propellant transfer is a critical enabler for Artemis III but remains threatened by multiple dependencies: development and reliable demonstration of Starship Version 3, tanker and depot configurations, and improvements in Raptor engine reliability. The Panel also observed that an alternative mission orbit could reduce overall risk, but this has not yet been adopted.

Mr. Hill described SpaceX's unique operational model, in which Starlink revenue directly fuels Starship development, creating a self-reinforcing cycle of high launch tempo, rapid learning, and cost reduction. In 2024, SpaceX launched 136 missions, and by August 2025 had already launched 107, with a goal of 180 by year's end; compared to just 135 shuttle missions flown across the entire 30-year shuttle program. This cadence has allowed SpaceX to iterate quickly, build reliability through sheer operational volume, and reduce costs through economies of scale.

The Panel concluded that while this model gives SpaceX unmatched advantages in manufacturing, tempo, and operational learning, it also creates competing priorities between commercial revenue generation and NASA's HLS objectives. Mr. Hill stressed that future government contracts must be tailored to the specific business models and incentives of each contractor rather than assuming uniform outcomes across companies.

Mr. William Bray provided the Panel's assessment of the M2M program. He noted that Artemis II remains on track for an early 2026 launch, with technical risks well understood and actively mitigated. The program has shown strong engineering discipline, particularly in anticipating off-nominal scenarios before flight. By contrast, Artemis III and later missions face significant uncertainty. The Panel reiterated concerns that had been raised in prior annual reports and quarterly meetings that Artemis III carries too many "firsts" (new spacecraft systems, new operational concepts, South Pole landing site, and new suits) and each of these first objectives has a risk associated with it. Those risks compounded, create an increased safety risk posture. The Panel urged NASA to consider redistributing objectives across missions, following the Apollo approach, to achieve a more balanced cadence and reduce risk exposure.

Mr. Bray emphasized that HLS and new surface suits remain on the critical path. Their aggressive schedules leave little margin to meet the proposed schedule, and any slippage could postpone the lunar landing indefinitely. Uncertainties in configuration and budget for Artemis IV and beyond further complicate planning. The Panel intends to conduct further fact-finding on SpaceX's cryogenic refueling approach, HLS design, and Artemis architecture in upcoming sessions.

Mr. Charlie Precourt delivered the Panel's observations on the Commercial Crew Program (CCP), focusing on Boeing's Starliner. He described how significant thruster anomalies during docking with the International Space Station (ISS) placed the crew in a precarious position. Commander Butch Wilmore and pilot Suni Williams credited extensive manual flight training and preparation with ensuring mission success. NASA has since convened an independent investigation led by Flight Director Rebecca Wingfield. Early indications point toward the next Starliner mission being uncrewed, a step the Panel considers logical given the severity of the anomalies. Boeing

and NASA are currently conducting integrated thruster testing at White Sands to requalify upgrades.

Mr. Precourt also reviewed SpaceX's recent performance. Crew-11 launched on August 1 aboard Dragon Endeavour, completing the fastest ISS rendezvous to date at 14.5 hours. Crew-10 splashed down on August 9 in the Pacific Ocean, marking the first Pacific recovery for NASA since Apollo-Soyuz in 1975. SpaceX is working to resolve a minor ballast pump issue encountered post-splashdown. The Panel noted that SpaceX missions are currently certified for 210 days but are being reviewed for extension to 270 days to provide ISS operational flexibility.

Dr. Richard Williams addressed the status of NASA's Technical Authorities (TA). He reminded all that these independent offices were established following the Columbia Accident Investigation Board and remain critical for ensuring unbiased technical oversight. He expressed concern that proposed budget reductions and senior-level workforce attrition threaten the TA's ability to fulfill their mandates. Some reorganization has been suggested, but the Panel continues to support the existing structure of three separate, independent offices reporting directly to NASA leadership. The Panel reaffirmed that the independence, consistent application, and adequate resourcing of technical authorities must remain a top priority for agency safety.

Ms. Katharina McFarland reported on the Panel's ongoing fact-finding into NASA's contracting strategies. She noted that the CCP marked a turning point for U.S. spaceflight by engaging commercial partners, but also revealed challenges such as unclear contract structures, insufficient oversight, cultural drift in risk acceptance, and the danger of milestones being achieved "on paper" while safety issues remained unresolved. Ms. McFarland emphasized that future contracts must clearly assign ownership of risk, strengthen oversight teams, rebuild testing infrastructure, capture lessons learned systematically, and account for industry-specific incentives and business models. Panel members Mr. Hill, Mr. Precourt, Mr. Rominger, and Dr. Mark Sirangelo added that one-size-fits-all approaches are inadequate, and contracting strategies must be tailored to each company's priorities and culture.

Dr. Sirangelo delivered the Panel's impressions from the budget briefing received at Headquarters. He emphasized that budget decisions are inseparable from safety outcomes. Potential reductions to ISS crew size, delays in resupply, and funding challenges for Artemis and commercial Lower Earth Orbit (LEO) stations all have direct implications for risk. Dr. Sirangelo stressed that budget uncertainty is particularly harmful, as year-to-year or even month-to-month instability undermines long-term program planning and forces managers into reactive decision-making. Mr. Bray added that from a program management perspective, uncertainty is more damaging than reductions or increases because it prevents risk-based planning. Ms. McFarland observed that industry also suffers, as companies must redirect their top talent to other programs when NASA's commitments remain unclear.

Mr. Kent Rominger reported on the status of the ISS. The Panel continues to track cracks and leaks in the Russian PRK module. While repairs have reduced the leak rate, the issue remains a significant long-term risk, particularly since the root cause for the cracks is still undetermined. Planning continues for controlled ISS deorbit, with the U.S. Deorbit Vehicle (USDV) scheduled

for delivery in 2028. Mr. Rominger praised ISS operations but warned that risks are compounding due to aging hardware, spacesuit problems, and resupply challenges. LTG Helms reinforced that the ISS is now in its riskiest period. Should an age-related failure exceed the program's ability to manage it, the consequences could include an uncontrolled reentry with risks to both crew and the public. The Panel urged sustained funding to ensure safe operations through 2030.

LTG Helms concluded by again underscoring the importance of independent technical authorities, particularly in decisions such as the Starliner return. She noted that their independence provides critical input to both NASA and the Panel in assessing organizational health and risk management.

Ms. Hamilton opened the meeting for public comment. No comments were received.

LTG Helms adjourned the ASAP Third Quarterly meeting of 2025 at 3:51 p.m. EST.

Appendix A

Teleconference Attendees[1]

Bill Harwood	*CBS News*
Crystal Jones	*NASA*
Dan	*SpaceX*
Danielle Strong	*SOMD HQ*
Diana Oglesby	*NASA*
Irma Granell	*NASA*
Isidro Reyna	*NASA*
James Gannon	*NASA Communications*
Jamie Krauk	*NASA ACMD*
Jeff Foust	*Space News*
Jessica	*NASA*
Jimi Russell	*NASA*
Josh Finch	*NASA*
Ken	
Kevin	*NASA*
Zudayyah Taylor-Dunn	*NASA HQ*
Lauren Low	*NASA*
Maddie	*NASA SOMD*
Micah Maidenberg	*Wall Street Journal*
Miles Doran	*CBS News*
NASA HQ	*SOMD*
Nick Ball	*Aerospace Corporation*
Ramona Gallardo	*NASA ISS*
Richard Irving	*NASA*
Susan Sawyer	*NASA*
Sylvie Escinasse	*ESA*

[1] The names and affiliations are as given by the attendees, and/or as recorded by the teleconference operator.