

National Aeronautics and Space Administration

International Space Station Advisory Committee

September 17, 2025  
NASA Headquarters  
Washington, DC

OPEN MEETING REPORT



*Robert D. Cabana*

Col. Robert D. Cabana, USMC (Ret.)  
Chairman

*Dennis McSweeney*

Mr. Dennis McSweeney  
Executive Director

# NASA INTERNATIONAL SPACE STATION ADVISORY COMMITTEE

September 17, 2025  
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# ***NASA INTERNATIONAL SPACE STATION ADVISORY COMMITTEE***

## **MEETING REPORT**

**September 17, 2025  
NASA Headquarters  
10:00 AM ET**

Mr. Dennis McSweeney, Executive Director of the NASA International Space Station Advisory Committee (ISSAC), called the meeting to order, welcomed the participants, called roll, and gave a brief overview of the purpose of the ISSAC closed fact-finding meeting with the Roscosmos Advisory Expert Council that was held in Moscow, Russia, July 14 - 17, 2025.

Following roll call, Mr. McSweeney turned the meeting over to Col. Robert Cabana, ISSAC Chair.

**Chairman Robert Cabana:** *Thank you, Dennis.*

*As Dennis noted, from July 14-17, this committee held a joint meeting in Moscow with the Roscosmos Advisory Expert Council, which is chaired by Sergei Krikalev*

*At this joint meeting in Moscow, the two advisory committees – which are referred to as the Joint Commission when they meet together – held very productive discussions with representatives from NASA and Roscosmos.*

*Our meeting coincided with the 50<sup>th</sup> anniversary of the Apollo-Soyuz mission when Tom Stafford and Alexei Leonov had their historic handshake in space.*

*The Joint Commission commended NASA, Roscosmos, and the other ISS international partners for close to 25 years of safe and successful operations and utilization of the ISS with a continuous human presence.*

*A bit of background on the Joint Commission for those who may not be familiar with it: The Joint Commission was established in late 1994 and met for the first time in February 1995 in Moscow under the leadership of Tom Stafford and Academician Vladimir Utkin to facilitate the U.S.-Russia partnership and review the safety and operational readiness of the Shuttle-Mir Program. Thanks to its success and contributions to the Shuttle-Mir program, the Joint Commission was asked to continue in this role for the International Space Station Program.*

*The Joint Commission has met regularly twice a year to review the safety, utilization, and operations of the ISS.*

*The Joint Commission began its meeting in July by reviewing the status of the NASA and Roscosmos responses to the four recommendations that the Joint Commission had made at its previous meeting in Houston in February 2025.*

*The first recommendation called for the continued support of face-to-face meetings of US and Russian materials and structures experts to find a common understanding of the root cause of the leaks in the Service Module Transfer Tunnel, which is known by its Russian acronym PrK.*

*The response by NASA and Roscosmos to this action has been outstanding.*

*A team of U.S. materials and structures experts traveled to Moscow in May and again just a couple of weeks ago and met with Russian materials and structures experts to share information and review the status of investigations into the root cause of the PrK leaks.*

*While the teams have thus far been unable to come to an agreed root cause, each side has gained a fuller understanding thanks to the detailed joint discussions and sharing of data.*

*The second recommendation suggested that after the root cause and impact of the PrK leaks are agreed upon, NASA and Roscosmos should reevaluate the nominal and contingency operations procedures.*

*Given that the two agencies have not yet been able to determine and agree upon the root cause of the PrK leaks, this recommendation remains open.*

*In the meantime, however, at its Moscow meeting in July the Joint Commission provided a new and more specific recommendation regarding PrK operational procedures. I'll touch upon this recommendation in a few minutes.*

*The third recommendation was more of a general observation on the importance of continuing research on the ISS to advance our understanding of microgravity effects on the human body and to help develop safe countermeasures.*

*No response from NASA and Roscosmos was required for this recommendation or observation.*

*The two agencies continue to conduct valuable research on ISS that contributes to a better understand how spaceflight affects the human body.*

*This research is essential for preparing astronauts for long-duration missions, including missions to the Moon and Mars.*

*The final recommendation from the February Joint Commission was that NASA and Roscosmos should develop an integrated deorbit decision timeline.*

*Regarding this recommendation, NASA and Roscosmos teams are working on developing the deorbit timeline.*

*Additionally, this recommendation has been enhanced by a few more specific recommendations that the Joint Commission made at its meeting in July, which I will summarize shortly.*

*After reviewing the status of the recommendations from the September meeting, the Joint Commission received briefings from Roscosmos and NASA representatives on the following:*

- *The current status of the US and Russian ISS segments, focusing on the sustainability, operations, and utilization of ISS.*
- *A detailed update from both U.S. and Russian Teams on the PrK leak investigation.*
- *Sparing and sustaining operations of the Functional Cargo Block (FGB).*
- *Deorbit strategy using a US Deorbit Vehicle (USDV) and two Progress vehicles.*
- *Maintaining clinical space medicine and behavioral health skills of the crew and the medical support teams as well as continued utilization for the remaining duration of the ISS.*

*The Joint Commission recognized the importance of continued resupply of consumables and spares to the ISS, especially with the cargo resupply shortfall exacerbated by the loss of the NG-22 vehicle.*

*The Joint Commission also recognized the joint NASA and Roscosmos plan to deliver propellant to ISS and the importance of continuing to meet these deliveries.*

*The Joint Commission also recognized the successful implementation of integrated crew flights, providing assured access to ISS.*

*It is clear from the briefings that the two sides are not in total agreement on the severity and consequences of the cracks in the PrK and that more data is needed to reach agreement.*

*Until the technical specialists reach a common understanding of this issue, the Joint Commission advises continuing to implement a conservative approach to operations utilizing current mitigations (which means operating the PrK at reduced pressure and keeping the Node 1 aft hatch closed when the PrK hatch is open).*

*The Joint Commission recognized the need to resolve this issue as soon as possible and recommended that the technical teams bring an updated understanding of the risks to discuss at the next face-to-face meeting of the technical teams by the end of the year.*

*As a result of these briefings and discussions, the Joint Commission made a deliberate decision to focus its recommendations on issues associated with the PrK cracks and deorbit planning.*

*Regarding the investigation into the PrK cracks and the efforts to mitigate their effects, the Joint Commission made the following recommendations:*

1. *Continue face-to-face and remote meetings of U.S. and Russian materials and structures experts, to include experts from TsNIIMash, to find a common understanding of the root cause of the PrK cracks. The teams should expedite this work to reach a common understanding of the issue.*

2. *Pursue additional testing and analysis to find the root cause of the PrK cracks and to reduce the uncertainty in the crack growth rate predictions. This testing should include the following, as well as other tests that the technical teams determine to be necessary:*
  - *Roscosmos should perform tests on the effect of the Germetall sealant on the structural integrity of a repaired crack.*
  - *NASA should perform tests on environmentally-assisted cracking in a representative ISS atmosphere.*
  - *Roscosmos should perform tests on pump vibration effects on the PrK structure.*
3. *NASA and Roscosmos should work to improve the capability to measure and monitor PrK shell material conditions and to identify new cracks and crack changes.*
4. *NASA should provide Roscosmos with the results of current testing and analysis of predicted crack growth rate.*
5. *Identify possible options for technical solutions, such as structural reinforcement or added devices and so on, to mitigate the risk of a catastrophic failure of the PrK.*
6. *Roscosmos should provide NASA the PrK finite element model to support analysis and testing.*
7. *NASA should provide Roscosmos the forcing functions of USOS docking vehicles.*
8. *Minimize the amount of time that the PrK is at a high pressure.*
9. *Perform additional ground component testing and analysis for the PrK hatch to assess the maximum service life beyond 200 cycles and consider the results when planning the use of the PrK hatch.*
10. *Determine the level of PrK pressure that minimizes overall risk.*

*Regarding planning for the deorbit of the ISS, the Joint Commission made the following recommendations:*

- *NASA and Roscosmos should create a joint technical deorbit protocol so technical requirements and capabilities for deorbit in late 2030 are clear.*
- *NASA and Roscosmos should work jointly to define contingency deorbit plans for possible USDV failures or delays and should develop procedures for deorbit using two Progress vehicles and the Service Module in case the USDV is not available (in other words, the two Progress vehicle backup).*
- *In order to mitigate the risk of an uncontrolled ISS reentry, NASA and Roscosmos should ensure that the ISS has sufficient resources (including spares, resupply, workforce, and onboard crew) to be safely operated for the duration of its lifetime through late 2030.*

*The Joint Commission commended NASA, Roscosmos, and the other ISS international partners on their exceptional efforts in ensuring the continued safe and productive operation of the International Space Station, maximizing its value for scientific research, and paving the way for future human space exploration.*

*The Joint Commission agreed to meet again in December 2025 or early 2026.*

*Finally, I would like to note a recent operational event that was presented to the Joint Commission that underscores the continued strength and resilience of the International Space*

*Station and reflects the strong partnership that NASA has not only with its international partners, but with its commercial partners as well.*

*Late last month, the SpaceX-33 Cargo Dragon mission delivered a new reboost kit designed to help maintain the ISS's orbital altitude.*

*This kit includes two Draco engines housed in the trunk of the Dragon spacecraft.*

*On September 3, the Cargo Dragon successfully executed its first demonstration burn, raising the station's altitude by approximately one mile.*

*This new reboost kit in Cargo Dragon will help sustain the altitude of ISS through a series of longer burns planned periodically throughout the Fall, allowing the ISS Program to conserve and build up Russian segment propellant stores for future use, including deorbit.*

*The ISS is maintaining a high operational tempo even after more than two decades of continuous human presence in space.*

*The ISS Advisory Committee and the Joint Commission will continue to follow and assess these and other programmatic and operational developments as the ISS program progresses through this phase of mature operations.*

*I now open the floor to Committee members for any discussion or comments on the recommendations.*

There were no comments or discussion.

*Hearing no comment, the Committee reconfirms these recommendations and will continue to follow up with NASA and Roscosmos on their responses and implementation.*

*Thank you all for your time and commitment to the continued success and safety of the International Space Station Program.*

*Dennis, over to you to close the meeting.*

**Dennis McSweeney**

*Thank you, Bob. And thanks again to the Committee members for all your hard work on this assessment.*

*This open session of the NASA ISS Advisory Committee is adjourned.*

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**ADVISORY COMMITTEE MEMBERSHIP**

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Mr. Dennis McSweeney

Dep. Executive Director

Ms. Holly Stevens

**NASA International Space Station Advisory Committee Meeting**

NASA Headquarters

Washington, DC

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**Meeting Attendees**

**NASA International Space Station Advisory Committee**

Robert D. Cabana, Chairman

William Vantine, Deputy Chairman

Michael Greenfield

Ginger Kerrick

Harmony Myers

Josef Schmid

Bill Shepherd

Executive Director

Dennis McSweeney

Holly Stevens

Technical Advisor

Kevin Ford

Robert Maiberger

**NASA**

Owen Chbani

Richard Irving

Cindy Koester

Jamie Krauk

Clevette Lee

David Petterson

Casey Swails

**Others**

Miles Doran

Sylvie Espinasse

William Harwood

Will Robinson-Smith