

National Aeronautics and Space Administration

International Space Station Advisory Committee

April 29, 2026  
NASA Headquarters  
Washington, DC

OPEN MEETING REPORT



*Robert D. Cabana*

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

*D. McSweeney*

Mr. Dennis McSweeney  
Executive Director

# NASA INTERNATIONAL SPACE STATION ADVISORY COMMITTEE

April 29, 2026  
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# ***NASA INTERNATIONAL SPACE STATION ADVISORY COMMITTEE***

## **MEETING REPORT**

**April 29, 2026**  
**NASA Headquarters**  
**9:00 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 explained that the purpose of the open meeting was to report on the ISSAC closed fact-finding meeting with the Roscosmos Advisory Expert Council that was held in Houston, Texas, March 2-5, 2026, and to report on the status of the NASA and Roscosmos responses to the recommendations that the ISSAC-Roscosmos Advisory Expert Council Joint Commission made at its meeting in Moscow in July 2025.

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

### **Chairman Robert Cabana:**

*As Dennis noted, from March 2-5, this committee held a joint meeting in Houston with the Roscosmos Advisory Expert Council, which is chaired by Sergei Krikalev.*

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

*The Joint Commission discussed the recommendations it made at its previous meeting, which was held in Moscow in July 2025. Those recommendations and the status of the agencies' responses to them, are as follows:*

#### *Recommendation 1:*

- *Continue face-to-face and remote meetings of U.S. and Russian material and structures experts, to include TsNIIMash, to find a common understanding of the root cause of the cracks in the ISS Service Module Transfer Tunnel (commonly referred to by its Russian acronym -- PrK).*
- *The teams should expedite this work to reach a common understanding of the issue.*

#### *Status of Recommendation 1 response:*

- *Remote meetings and face-to-face meetings have continued. The next face-to-face meeting of U.S. and Russian material and structures experts is scheduled to take place in Moscow in June.*
- *TsNIIMash remains engaged. Additionally, the Russian team has engaged materials experts from the Russian company Kompozit.*

*Recommendation 2 is a multi-part recommendation.*

- *Generally, the recommendation is to pursue additional testing and analysis to find the PrK crack root cause and to reduce the uncertainty in the crack growth rate predictions to include the following, as well as other tests that technical teams determine to be necessary.*
  - *Recommendation 2a, which is a Russian responsibility, is to test Germetall's effect on the structural integrity of a repaired crack.*
    - *The status of the response is that TsNIIMash is in the early stages of developing testing.*
  - *Recommendation 2b, which is a NASA responsibility, is to test for Environmentally Assisted Cracking (EAC) in a representative ISS atmosphere.*
    - *Status of the response is that NASA has completed EAC Phase 4 Vapor testing and is in the process of reviewing the findings.*
  - *Recommendation 2c, which is a Russian responsibility, is to test pump vibration effects on the PrK structure.*
    - *Some on-orbit testing and delivery of data to NASA has been completed.*
    - *Remaining analysis is in work and the recommendation response remains open.*

*Recommendation 3:*

- *Improve the capability to measure and monitor PrK shell material conditions to identify new cracks and crack changes.*

*Status of Recommendation 3 response:*

- *The Joint team collaborates on determining which nondestructive testing device is best suited for taking the measurements.*
- *NASA utilizes five different independent analysts to independently assess on-orbit data.*
- *Technical specialists on both sides evaluate the data and share findings.*

*Recommendation 4:*

- *NASA to provide the results of current testing and analysis of the predicted crack growth rate.*

*Status of Recommendation 4 response:*

- *NASA has shared testing and analysis results with the Russian team and will continue to do so as analysis tools continue to mature with additional data from testing and on-orbit crack growth measurements.*

*Recommendation 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.*

*Status of Recommendation 5 response:*

- *NASA and Roscosmos have formed teams to assess and identify possible technical and structural solutions to mitigate the risk posed by the cracks in the PrK.*
- *This recommendation response remains open.*

*Recommendation 6:*

- *Roscosmos to provide the PrK finite element model to support the analysis and testing.*

*Status of Recommendation 6 response:*

- *The Russian team has delivered the model to NASA*

*Recommendation 7:*

- *NASA to provide the forcing functions of USOS docking vehicles.*

*Status of Recommendation 7 response:*

- *NASA has sent the data to the Russian team.*

*Recommendation 8:*

- *Minimize the time that PrK is at high pressure.*

*Status of Recommendation 8 response:*

- *The Russian side is prioritizing reduced cycling of pressure over minimizing time at pressure.*
- *PrK was pressurized for a number of days in the fall of 2025 after ingress operations, after which on-orbit Non-Destructive Evaluation detected crack growth.*
- *The PrK has also been pressurized more recently for several days..*
- *The Russian side plans to depress PrK to ~250mmHg in early May 2026.*
- *The NASA team continues to have concern over the length of time PrK remains at pressure.*
- *This recommendation response remains open.*

*Recommendation 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.*

*Status of Recommendation 9 response:*

- *The Russian team continues to evaluate PrK hatch life extension.*
- *This action remains open.*

*Recommendation 10:*

- *Determine the level of PrK pressure that minimizes overall risk.*

*Status of Recommendation 10 response:*

- *Roscosmos and NASA signed a protocol in August 2025 to lower PrK pressure when the PrK operations are not required.*
- *This lower pressure is not always being adhered to, and teams are comparing analysis.*
- *This recommendation response remains open.*

*Recommendation 11:*

- *NASA and Roscosmos should create a joint technical deorbit protocol so technical requirements and capabilities for deorbiting in late 2030 are clear.*

*Status of Recommendation 11 response:*

- *NASA and Roscosmos signed a protocol in October 2025 regarding the expected technical roles and responsibilities of the two sides during deorbit procedures.*

*Recommendation 12:*

- *NASA and Roscosmos should work jointly to define contingency deorbit plans for USDV failures or delays and procedures for deorbit using two Progress vehicles and the Service Module.*

*Status of Recommendation 12 response:*

- *NASA and Roscosmos signed a contingency deorbit protocol in June 2024.*
- *Further planning and assumptions for these off-nominal scenarios continue to be discussed in joint technical and programmatic meetings.*

*Recommendation 13:*

- *In order to mitigate the risk of an uncontrolled ISS reentry, ensure that the ISS has sufficient resources (spares, resupply, workforce, and onboard crew) to be safely operated for the duration of its lifetime through late 2030.*

*Status of Recommendation 13 response:*

- *This recommendation remains a regular focus for the NASA ISS Program. The ability to ensure safe operations for the duration of the ISS lifetime is continuously revalidated:*
  1. *Throughout every budget cycle*
  2. *In response to hardware and transportation failures and anomalies*
  3. *As a result of workforce transition (transfers, retirements, etc.)*

*Those were a lot of recommendations. The ISS Advisory Committee appreciates the continued efforts of the NASA and Roscosmos teams in responding to these recommendations.*

*At last month's meeting, Joint Commission received briefings from Roscosmos and NASA representatives on the following:*

- *The current status of the U.S. and Russian ISS segments and programmatic plans and issues;*
- *Off-nominal and contingency operations (including a delayed Progress launch and the early return of NASA SpaceX Crew-11);*
- *The current status of the Starliner spacecraft;*
- *A detailed update from the U.S. and Russian teams on the PrK, including leak analysis, root cause, and mitigations;*
- *Sparing and sustaining operations of the Functional Cargo Block (FGB)*
- *The deorbit strategy using a U.S. Deorbit Vehicle (USDV) and two Progress vehicles;*
- *Continued research on ISS to understand emergent and critical medical issues.*

- *And the status of the repairs to the Baikonur launch pad and the impact of delayed cargo delivery to the ISS.*

*The Joint Commission commended the close coordination between the NASA and Roscosmos teams in managing an onboard medical issue that required the early return of NASA SpaceX Crew-11.*

*The Joint Commission noted the flexibility provided by integrated U.S. and Russian crews and the ability of the integrated crews to respond to medical situations and other contingency operations.*

*The Joint Commission discussed the Space Station Control Board's expressed desire that a decision by the partner agencies for ISS deorbit or extension be made by the end of 2026 to allow for the initiation of coordination of government approvals and procurement of necessary vehicles.*

*The Joint Commission noted that uncertainty regarding the Starliner crew certification date creates challenges for crew training, crew rotations, and flight plans.*

*The Joint Commission noted that NASA and Roscosmos technical teams have made significant progress in understanding the root cause and mitigations of cracking in the PrK.*

*The Joint Commission noted that teams agree on the two potential causes of crack initiation: very high cycle fatigue from pump vibrations and/or Environmental Assisted Cracking.*

*However, the teams have not yet agreed on the severity and consequences of the cracks.*

*The Joint Commission noted that continued research into the causes and consequences of the cracking are required to maintain safe operations of ISS.*

*The Joint Commission made the following recommendations:*

- 1. Recommend that the integrated medical group continues its analysis of in-flight medical data and how its analysis can assist the crew selection process, flight certification and monitoring of crew health during flight. Furthermore, recommend continuing crew medical training, enhancing to the extent practical the onboard diagnostic and treatment technologies and embedding space medicine personnel in the flight control teams.*
- 2. In order to prevent future launch pad anomalies, the Joint Commission recommends a review of ground launch procedures and improved training of ground personnel.*
- 3. Recommend that before new vehicles are allowed to dock to ISS they should first undergo thorough ground testing that closely models the operational environment to ensure the systems operate within specifications.*
- 4. Recommend that NASA provides the Russian team with updated safety and hazard reports prior to the next docking of the Starliner to the ISS.*
- 5. When adding Starliner into the crew rotation, the Joint Commission recommends protecting ISS integrated crew operations to the maximum extent possible.*
- 6. Recommend that the Roscosmos and NASA teams should continue to work together to refine a deorbit plan.*

*The Joint Commission made a number of recommendations regarding the PrK:*

- 1. Recommend continuing to pursue additional testing and analysis to find the PrK crack root cause and that the findings be presented at the next meeting of the Joint Commission.*
- 2. Until a full understanding of the PrK cracks is reached, recommend continuing to operate using a conservative approach (which means operating the PrK at reduced pressure and keeping the Node 1 aft hatch closed when the PrK hatch is open).*
- 3. Recommend implementing the NASA-Roscosmos protocol for PrK pressure management as signed in August 2025, or provide rationale for deviations from it.*
- 4. Recommend jointly developing potential scenarios for Progress docking and flight operations to minimize overall risk to the ISS, considering both the elimination of PrK hatch opening and any changes in Progress operations.*

*The Joint Commission asks that a joint team present the scenarios at the next Joint Commission meeting.*

- 5. Recommend continuing face-to-face and remote meetings of U.S. and Russian material and structures experts, to include experts from TsNIIMash and Kompozit, to find a common understanding of the root cause of the PrK cracks. Further recommend that the teams hold a joint Technical Interchange Meeting in the May/June timeframe.*
- 6. Recommend continuing to pursue options for technical solutions, such as structural reinforcement, to mitigate the risk of a catastrophic failure of the PrK.*
- 7. And finally, recommend performing an analysis of the PrK hatch in order to extend its service life.*

*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.*

*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 associated with the Committee's review of these issues.*

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

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NASA Headquarters  
Washington, DC  
April 29, 2026

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**NASA International Space Station Advisory Committee Meeting**

NASA Headquarters

Washington, DC

April 29, 2026

***Meeting Attendees***

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Sylvie Espinasse

Jeff Foust

Marcia Smith