**ARISS International Monthly Meeting Teleconference**

**November 20, 2018, 1200 UTC**

Participants:

Oliver Amend

Frank Bauer

Gaston Bertels

Emanuele D’Andria

Francesco De Paolis

Shizuo Endo

Gianpietro Ferrario

Bruce Hunter

Bertus Husken

Tony Hutchison

David Jordan

John Kludt

Keigo Komuro

Glenn MacDonell

Ciaran Morgan

Ken Nichols

Keith Pugh

Kenneth Ransom

Sergey Samburov

Dave Taylor

Rosalie White

Satoshi Yasuda

Interpreter: Olga Moncuquet

Unable to attend:

Fabio Azzarello

Kerry Banke

Armand Budzianowski

Jean-Pierre Courjaud

Darin Cowan

Stefan Dombrowski

Tatiana Kolmykova

Chet Latawiec

Lou McFadin

Jan Poppeliers

Graham Shirville

Joe Spier

Mark Steiner

Eskil Van Loosdrecht

***Meeting Agenda***

**Roll Call—Rosalie White, K1STO**

**Welcome—Frank Bauer, KA3HDO, Oliver Amend, DG6BCE**

Frank Bauer welcomed team members and because of problems with talking due to a cold, he asked Oliver Amend to chair the meeting.

Oliver Amend took the opportunity, on behalf of the three ARISS officers, to remember November 20, 1998 as, the day the first ISS module, Zarya, was launched; it traveled on a Proton rocket into space. Two weeks later, the Unity module was launched aboard STS-88 Endeavour and attached to Zarya. This assembly stayed uninhabited for almost 2 years. ARISS is thankful to all countries, space agencies, and all volunteers who supported and still support ARISS in its STEAM education. Oliver Amend took the opportunity, as well, to explain an item to ARISS-I delegates from the Maryland meetings, since some delegates had to leave the meetings early. He explained that at the Saturday technical meeting, the team learned that astronaut training to use the Service Module radios, performed at Energia by Sergey Samburov had stopped for some reason. A side meeting was held that Saturday to discuss this and develop a forward plan. Sergey Samburov approved Serena Aunon-Chancellor to continue to use the Service Module radios with an understanding that all future crew members that plan to use the radio get the proper training. The team really appreciates the efforts and engagement of Sergey Samburov in his initiatives and assistance in overcoming the problem. He made extra efforts, upon returning to Russia, to train David Saint-Jacques.

Frank Bauer summarized things this way: The team discovered a problem and solved it together as an international team. The international collaboration is greatly appreciated.

**1.     Call for Acceptance of Minutes—Rosalie White, K1STO**

[Decisional]

Summary: The minutes from the ARISS-International Monthly Meeting on September 18, 2018 were completed by Rosalie White on September 20 and distributed on September 22, 2018.

Discussion: Bruce Hunter moved to accept the minutes and Gaston Bertels seconded the motion. There were no objections, so the minutes were accepted.

**2.    ARISS International Face-to-face Meeting—Frank Bauer, KA3HDO**

[Informational]

Summary: The ARISS International Delegates meeting was October 17-19, 2018 at the College Park Airport/Aviation Museum Conference Center in College Park, Maryland.  The following day, October 20, was an ARISS Hardware Technical Interchange Meeting. Presentations were given on ARISS operations, student and general public education, current hardware development, experimentation initiatives such as the Tanusha CubeSats and MarconISSta, future opportunities such as the Lunar Orbiting Gateway, ARISS sustainment and much more.  Tours included: NASA Goddard, the K6DUE telebridge station, College Park Airport Museum, National Air & Space Museum (Udvar Hazy) and a Washington DC general tour.  Special evening events were a banquet on Thursday and Frank and Janet Bauer’s Open House on Tuesday.  Carol Jackson has sent a request for meeting feedback in a 3, 2, 1 format; please send her your inputs no later than Friday, November 23.

Discussion: Oliver Amend thanked all who traveled to Maryland and those who tied in to the meetings remotely, and was happy that Phil Parton and Shin Aota from Kenwood could attend. The agenda was changed at times because several people needed to leave before the Saturday hardware meeting. Frank and Janet Bauer were thanked for the open house and for all of the work they had done to ensure successful meetings. Thanks for great assistance was also given to Carol Jackson, Michelle Bauer, Marilyn and Dave Taylor, and also to the latter for his handling of the QSO with Serena Aunon-Chancellor on the ISS.

Emanuele Andria thanked Oliver Amend and Rosalie White for their efforts during the meeting, but said some presentations should have had more time for discussion, such as some technical topics and the Gateway project (and the terms of reference may need words inserted about deep space exploration), while other presentations would have been better as just a report to be read later. Frank Bauer thanked Emanuele for his feedback and asked him to email his notes soon. Frank Bauer agreed that the Ad-hoc Exploration Technical Committee could be named in the terms of reference if ARISS Delegates agree on this when discussing that document in the near future. He said the online HamTV Technical presentation given by Gaston Bertels was nicely done. He asked team members to always make suggestions about the agenda as soon as the agenda drafts are published--before the meetings begin so we can discuss these as a team and make changes before the meeting. He hopes the face-to-face meetings will continue to improve each year.

**3. Interoperable Radio System Multi-Voltage Power Supply Technical Interchange Meeting (TIM)—Frank Bauer, KA3HDO**

[Informational]

Summary: On November 27, 2018, the ARISS team will be conducting a Technical Interchange Meeting (TIM) with the NASA safety and engineering experts on changes that the team had made to the Multi-Voltage Power Supply.  During testing of the supply, the electrical input board exhibited hot spots on the 120 VDC and 28 VDC input diodes. This would not be an issue in a 1-g environment. On the ISS, however, with its microgravity environment and no heat convection, there is concern that the increased temperatures may impact power supply's life.  As a result, the ARISS engineering team had devised an internal fan duct to force airflow over the diodes to increase reliability and the life of the power supply.  At this TIM, the engineering design change will be discussed with the NASA team and it is hoped that approval will be given for moving forward with the modification.

Discussion: Oliver Amend said the summary in the agenda explained things well, such as the hardware team having decided to re-design the power supply because of some warm spots. He thanked everyone who was involved with the work of the re-design. Frank Bauer reported that all safety data documentation is now updated.

**4. Newest Information on Packet Module—Kenneth Ransom, N5VHO**

[Informational]

Summary: The 71P Progress resupply vehicle was launched November 16, 2018 from the same departure point used by Yuri Gagarin in 1961. An ARISS Packet Radio Module was one of the payloads on-board Progress 71P.  This Packet Module will replace the current module that has been intermittent over the past year.  The Progress freighter was successfully docked with the ISS at the Zvezda (Russian Service Module) port on November 18.  This port is a few feet from the four ARISS antenna systems that are mounted around the periphery of the Service Module.  During the docking sequence, one of the ARISS antennas could be seen.  With the arrival of Progress completed, the crew needs to find free time to unpack Progress, uninstall the intermittent module, and then set up and test the replacement packet module.

Discussion: Kenneth Ransom reported that the old packet module is still functioning. If it stops working, the swap to the replacement module could take place sooner than otherwise. Frank Bauer thanked everyone on the team who worked on the paperwork needed for the launch of the replacement module.

**5. Newest ARISS SSTV Activities—Sergey Samburov, RV3DR & Frank Bauer, KA3HDO**

[Informational]

Summary: Through the coordination of ARISS-Russia leader Sergey Samburov, a special SSTV downlink event was conducted the weekend of October 27 to commemorate NASA’s 60th anniversary, to support the NASA on the Air (NOTA) anniversary commemoration, and to recognize the NASA Space Communication and Navigation (SCaN) Innovation Challenge education event. Over 3000 SSTV images were captured by hams and schools around the world and posted to the ARISS SSTV Gallery site.

A new SSTV event is proposed for the last of December/early in January to commemorate ARISS’s 18th year of continuous operations from ISS, which began November 13, 2000.  This SSTV event may also include some images from the earlier NASA SSTV event that were inadvertently partially covered with MMSTV wording.

Discussion: Oliver Amend thanked everyone on the team who prepared all of the details for this event. These things included reviewing images to select, compiling the images and so on. Sergey Samburov was thanked for his work to make the event happen.

Sergey Samburov had suggested the next event for SSTV images could be to commemorate the 18th anniversary of turning on the ARISS radios. Gaston Bertels mentioned that ARISS-Europe news bulletins about the SSTV activities go to over 2,000 subscribers.

**6. Status, ARISS SSTV Awards, NASA 60th Anniversary—Armand Budzianowski, SP3QFE & Oliver Amend, DG6BCE**

[Informational]

Summary: A report will be given by Armand Budzianowski on what he and his team did for the most recent ARISS SSTV award, the number of images that were received, and other statistics such as what his team did to fulfill the diploma requests.

Discussion: Oliver Amend reported for Armand Budzianowski who could not attend the telecon meeting. There were 1,000 applications for the October SSTV event, and 992 awards were sent electronically. Slawek Szymanowski had designed the award. In addition to the images being very popular with ham radio operators, many shortwave listeners download the images as do many schools who collect these as part of the preparation for their ARISS school contact. Oliver Amend thanked the Polish team and asked team members to distribute news releases when possible to hams in continents where few people take part in the event. Bertus Husken said IARU and AMSAT societies need the information early to run in their journals. Rosalie White suggested that some of the societies have online news venues and would not need the details quite as early for posting on web pages. Bertus Husken said SSTV activities could be tied to Field Day sometime, especially since non-hams participate in some Field Day activities.

**7. Update, ARISS Schools for July – December 2019—Oliver Amend, DG6BCE &**

**Frank Bauer, KA3HDO**

[Informational]

Summary: With crew changes and delayed vehicles arriving at the ISS, scheduling schools has become a challenge.  Also, it is unclear when NASA’s commercial crew vehicles will start up. The team needs to understand that 2019 will be an uncertain and challenging year for predicting the number of school contacts to be supported during a crew expedition and school contact scheduling.  If Soyuz launches on December 3, some uncertainty will be removed, but not all.

Discussion: Oliver Amend reported that Alexander Gerst had one more ARISS contact (with two schools) to support in December. The ARISS-Canada team will work with the Canadian Space Agency for planning the upcoming St Jacques mission. Francesco DePaolis is working with the Italian Space Agency for planning the future Parmitano mission.

Kenneth Ransom said there will be many vehicle docking activities in the July to December 2019 time frame, and ARISS turns off the radios during those times. There are also many shifts occurring on what crew members will be onboard and when they will be onboard. This significantly impacts ARISS operations. He is working to minimize the impact on ARISS school contacts and maximize the number of schools in the spring. But it is likely that some schools that would have been hosting contacts in the spring will have to wait until the fall. Rosalie White thanked Kenneth Ransom and the Operations Team for their great efforts to make the schedule work.

**Ad hoc**

Deep Space Gateway & the Ad-hoc Exploration Technical Team – Oliver Amend, DG6BCE

Oliver Amend said the Deep Space Gateway proposal needs to be worked on; there are many open items. It is time to ramp up the Ad-hoc Exploration Technical Team. Each ARISS Region needs a representative for the Ad-hoc Exploration Technical Committee -- ARISS-Japan has named Shizuo Endo and ARISS-Europe has formed a team. Oliver Amend will compile the list of the people and set up a meeting as soon as other Delegates name a representative.

Frank Bauer told team members that all papers on Deep Space Gateway and exploration discussions from the Maryland meetings are in the Dropbox folders. This includes Gateway exploration notes that were recorded on large poster paper with markers and photographed with a camera (all other meetings’ presentations and the photos received thus far are uploaded, too).

**Next Meeting**

The next meeting will be December 18, 2018 at 1200 UTC.

Respectfully submitted,

Rosalie White, K1STO

ARISS-International Secretary Treasurer

November 26, 2018