



EOSS Meeting Minutes  
Tuesday November 13, 2018  
Centennial, CO

**Call to Order:** Russ KBØTVJ called the meeting to order at 7:00 PM. There were 9 present with 7 attending via Zoom Meeting.

**New Member:** Russ introduced Geoff Lake who will be teaching the Gateway to Space class in spring 2019. Geoff is anxious to learning what EOSS is about.

**Previous Meeting Minutes:** Meeting minutes for October 9, 2018 were emailed out for review and accepted during meeting.

**Treasurer's reports:** Treasurer's report will be delayed until January's meeting. Jim KCØRPS was contacted by Norm Black who said that NDIA has not been invoice for the October 13th flight. Tom KE7KCK will get with Rob NØRPF for details.

**Tech Committee:** Mark KCØD said that all payloads that received damage when parachute fouled have been repaired by Steve KØSCC and are ready to fly. Damage was cosmetic. One of the beacons experienced GPS failure with a Tiny Track 4 board and it has been returned for repair. The tech team is also working on a new design for the dipole antenna to make it more robust.

**Launch Team:** Larry NØNDM is requesting some help with gas pickup and return as the bottles are becoming difficult to handle. Dave KDØSEM, Jeff N6BA, John KCØL and Geoff have offered to help.

**Ground Station:** Jeff N2XGL said the ground station has been working really well. They have been using DMR radios to fill the gaps where coverage by the analog repeaters is absent. Jeff is also working on a standalone signal strength system that can be placed away from the launch site to help verify beacon signals before launch.

**Track and Recovery:** Marty WAØGEH reported that EOSS-281 and EOSS-282 flights and recovery went well. One of the CU teams missed a turn but recovered quickly with help from Chris KDØNRY. Marty added that the use of the DMR radios worked nicely from the landing site. Mike W9CN said the RMHAM will be adding a DMR repeater between Sterling and Julesburg this summer to fill in some uncovered areas. Marty reminded the group that Chris KDØNRY has invited EOSS to join them for the student presentations in December at CU. Marty will email out information as it is available.

**FAA:** Russ KBØTVJ reported that the FAA attempted to contact him during the last flight and he missed the call. They then tried to call Randy and again were not able to make contact. They were able to make contact with Nick NØLP who immediately radioed the ground station so Russ could handle FAA situation. The FAA lost track of the balloon for a while but did regain position data. Russ will add Jeff N2XGL to the FAA's contact list. Russ KBØTVJ is working on the EOSS waiver for next year. He will send it to Michelle for review before sending it on to Washington for approval. Russ KBØTVJ suspects the FAR101 rules that are been revised could make it more difficult to acquire a waiver in the future.

**EOSS-280 recap:** Jim was the flight coordinator for a single heavy balloon for Metro State. Tom assumed Jim's duties late in the week because Jim had other obligations. The flight was moved to Sunday due to high winds expected at the launch site. Everything went well.

**EOSS-281 and EOSS-282 Recap:** Tom was the flight coordinator for two 3000 gram balloons. The first flight was for Gateway to Space reaching higher altitude than we have seen in a while. Everything went well. The second flight was for Colorado Space Grant that also reached a higher than average altitude. This flight did experience payloads getting tangled at lower end of flight string at launch. Everything else went well. Tom KE7KCK experienced some interference that he suspects is coming from one of CU's tracking stations. Marty added that the new SDR systems should solve the interference problem when deployed as it is receive only.

**Upcoming flights:** Jim KCØRPS will get with Steve KØSCC to set a date in February for a Fun flight to qualify new beacons. The next flight will be March 16<sup>th</sup> for NDIA. Geoff Lake will work with Bernadette to nail down dates for Gateway to Space and Colorado Space Grant sometime in March. Metro State will have a flight on March 30<sup>th</sup>. There is a possibility for a STEM flight in May if it is not gathered up into the NDIA flight.

**SDR Presentation:** Jeff N6BA presented his multi-frequency receive SDR system. This project was suggested by Doug NØIX some time ago. Jeff's system has many customizable features and can playback previous flights. Jeff has put a lot of work into the system and group is overwhelmingly interested in having these assembled for their tracking vehicles. Marty will send an email requesting interest to purchase one. Expected cost will be around \$500.00 each.

**Holiday Gathering:** Tom KE7KCK said some of the wives have expressed an interest in having a holiday get together. Tom said that we could rent the Garden Café and bring in food. John KCØL made a motion for the club to provide funds for the party not to exceed \$500.00. The motion was passed. Tom KE7KCK will send email to gauge interest level.

**Design Expo:** Jim encouraged everyone to come out and judge presentations at the Design Expo on December 8<sup>th</sup> at CU. This provides feedback that the students can use to make their final presentation better.

**Photography:** Marty would like to thank Nancy for her work as EOSS's new photographer.

**December Meeting:** Next month's meeting will be December 11<sup>th</sup> at CU Science Discovery Learning Center. Pizza will be served at 5:30 PM. Student presentations follow.

Meeting adjourned at 9:00 PM

Minutes prepared by David Lanning, Secretary.