EOSS Meeting Minutes

Tuesday August 14, 2018

Longmont, CO

***Call to Order*:** Tom called the meeting to order at 7:00 PM. There were 9 present with 6 attending via Zoom Meeting.

Previous Meeting Minutes: Meeting minutes for July 2018 were reviewed and accepted.

Treasurer's reports: No treasurers report this month.

Tech Committee: Tech committee is working on a several things. First, they are continuing their work on KCØD's wireless release role. Steve KØSCC is close to finalizing the base package in terms of size, battery power, etc. We are still looking at the release mechanism and its packaging. Mark, KCØD, is working on the programming that sets the sensitivity of the release mechanism. This is a balance of not releasing to early and releasing fast enough to avoid latex entanglement. Steve says that the shorter flight string is helping. New flight strings will be 6 foot long and tied at 4 foot when using the wireless release and flight strings will remain at 15 foot when using the mechanical release. KCØD-15 developed an RF problem on the last flight. Steve will investigate the cause and make repairs as needed. We need to build two more bottoms in the image of AEØSS-12 and 13. Steve will cannibalize KØSCC-11 to get the DJ-C7 radio to build one bottom. Steve requested that anybody running across a DJ-C7 radio grab it (up to $200.00). The goal is to have four bottoms with the DJ-C7 Tiny Track 4 combos. Steve added that AEØSS-12 is back in service. The 12 foot Rocket Man Chutes are working very well with both heavy and lighter loads and Steve would like to get three more. He will contact the vendor to see if he can work out a trade. Steve would like to have them made with alternating florescent lime green and florescent Orange. Jeff, N6BA, will test a fanless computer provide by Steve to see if it can be used as an SDR system in tracking vehicles.

Launch Team: Larry, NØNDM, said he has enough 1500-gram balloons to get us through the rest of the year. May need some 3000 gram balloons depending on schedule. Larry asked about target ascent rate for balloon flights. We have been filling the balloons with the lift value on the payload plan provided at the launch site but have had some balloons ascending to slowly. Nick, NØLP, and Randy will work on adjusting lift factors to meet the target ascent rate of 1200 feet per minute at launch.

Ground Station: Jeff, N2XGL, stated the previous launches have been nominal and they have been making sure that payload packets are reaching the internet. On flight out of Genoa, KCØD-15 experienced some problems getting to the internet but then started working. During the flight the signal strength became weaker and was lost above 10,000 feet by most trackers. Some time ago Steve, KØSCC, suggested that we park someone with an ear for recognizing weak signals a quarter mile away to listen to the payloads prior to launch and provide feedback on their condition. Jeff N2XGL will work on a portable SDR unit that can be chained up away from the launch site to improve confidence in payload signal strength prior to flight. Jeff add that he has been performing checks with DMR radios at the ground station and suggests that it could be an option on future flights.

Track and Recovery: Marty, WAØGEH, said that the tracking and recovery was successful but had some concerns with staging students along Hwy 287 between Limon, and Hugo, CO. We managed to gather all the students on County road 26 while contacting land owners for permission to recover.

FAA: Randy said that everything went well with changing launch site from Limon, CO to Genoa, CO. This change was required to stay out of DIA air space and to avoid landing in a heavily populated area near Black Forest.

Student Safety: Tom, KE7KCK, says the previous flight brings to light opportunities to improve on our safety measures. Tom suggests that flight coordinators contact Alpha to see if there is a safe staging area near the expected landing site prior to mobilizing students. Tom will compose an email to everybody regarding safety and student preparedness for enter the field for recovery.

EOSS-275 and EOSS-276 Recap: Tom, KE7KCK, was the coordinator for BIRST flight out of Limon, CO on July 21st. Students were able to stay at the ball field until burst. The balloon traveled west and then turned east back over the launch site. Recovery was made a few mile east of Limon.

EOSS-277 Recap: Jim, KCØRPS, was the coordinator for the COSGC flight out of Dear Trail on July 28th. This was a single 3000 gram balloon. Recovery was made 1.2 mile east of Hwy 287 between Limon and Hugo.

EOSS-278 recap: Jim was the coordinator for this CU Science Discovery flight out of Genoa, CO on August 11th. This flight was moved from Limon to the Genoa ball field due to unusual wind headed west toward Colorado Springs. Tom, KE7KCK, escorted the student to Simla CO, where they witnessed Burst. They continued on to north of Peyton, CO where they were able to see the payload land.

Upcoming Flights: Jim has added three new flights to the schedule on the web site. We have a Fall STEM flight on October 13th, Metro State Intro to Space on November 3rd, and CU Boulder Gateway to Space and DemoSats on November 10th.

C-Base Update: Steve, KØSCC, reported that the C-Base students have received approval to purchase and build an ADS-B payload. Steve will go over their payload in the next week or so. Unless their payload can receive GPS data while in the vacuum chamber Steve will require the first flight to run a dummy load and a data logger to see how it works.

Meeting Notices: Marty, WAØGEH, mentioned that recent meeting notices are a bit irregular and need to be streamlined. Tom, KE7KCK, has volunteered to gather dinner and meeting info from our hosts, and zoom meeting info from Marty. The information will be posted to the web site and emailed to the reflector one week prior to monthly meeting.

Email Reflector: Marty, WAØGEH, says that some members have experience poor response times when sending emails via the Yahoo reflector. Some testing showed some emails arrived within minutes and some many hours later. Tom, KE7KCK, made a motion for Dave, KDØSEM, to investigate migrating the EOSS email to groups.io. The motion was passed.

New Product Proposal: Russ, KBØTVJ, says the EOSS has one product which is a balloon that carries student payloads up and back down and recovered. Russ proposes that EOSS develop a new product to

offer students that floats down range and students try to bring it down in a target area. Tom KE7KCK asked Russ to write up a single page white paper that can be distributed for comment.

Naval Research Lab: Glenn, WBØDKT, asked if EOSS would be interested in a project for the Naval Research Lab that involves an inflatable antenna array. Glenn will send an introduction email to begin communications with EOSS leadership.

Meeting adjourned at 09:15 PM
Minutes prepared by David Lanning, Secretary.