

## **DSES Meeting Minutes and Agenda for DSES Minutes for 11 November, 2019 Engineering and Ops Meeting.**

Attendance: Gary Agranat, Phil Gage, Rich Russel, Johnathan Ares, Glenn Davis, Ray Uberecken, Floyd Glick, Bill Miller

Attending Remotely Via Team Viewer: Tony Bigbee, Jon Richardson

- Treasurer's Report:
  - Checking: \$1890.35
  - Savings: \$5740.79
  - Dues will be collected soon.
- Status – The annual Haswell Bazaar:
  - Bill and Gary met with Kemma Alfanno, the Haswell Director Librarian, and plan to give her a DVD set of Hubble Space Telescope pictures for their local library. This will hopefully inspire local citizens to further pursue their interests in space exploration.
- Next Site trip – Scheduled Saturday November 16<sup>th</sup>
  - Ed, Steve, Gary:
    - Ed plans on changing out two batteries and a power supply. Steve may change the fiber optic transmitter unit (if it arrives). Gary will check out the Amateur Radio equipment.
- Feed Status
  - Steve found the PS and Fiber Amp were having problems (see above).
  - Need to change out the amp and power supply.
- SETI Status
  - On hold until feed is fixed.
- Proposal for Multi-Feed system
  - Currently limited to 1420 MHz.
  - Make two(2) feeds on a pivot to quickly(?) flip into place. Reduce difficulty in changing frequencies, antennas, etc.
  - Later feed changer platform.
  - Feed would be for 1420, 1296, 435 and even down to VHF. Tony asked if it would be possible to add 1600-1700MHz in the future (for CO, carbon monoxide, detection).
  - Propose making the Amplifier pack part of the feed so it can be changed out completely and ensure it is functionally complete.
  - The Allan array uses a log periodic feed. What about that? Or a discone antenna.
- Telescope time and priorities
  - Moon bounce 1296MHz for November contest is out due to feed problems.
  - Coax feeds could temporarily solve the Fiber Amp failure problem.
  - This week's trip could install the coax to the feed.

- Bunker repairs
  - Smoke and fire detectors should be checked and/or replaced.
  - Would a propane detector be necessary (for the space heater)?
- System 1 status
  - Glenn needs to get Lewis Putman down to the site. Perhaps Thanksgiving time-frame? Manual tracking is currently available.
- System 2 status
  - Tracking capability is coming along; but Bill needs to get a physical simulator for Ed Johnson to see the loss of drive control. Something takes over control and drives beyond the software target (Division by zero as the error diminishes?).
- Rich Russel: 9 ft dish observations and paper in the SARA journal, Velocity versus galactic longitude
  - Johnathon is working the data set and plotting the data in detailed maps.
  - The 9 ft dish field of view is about 4.5 deg. At 1420MHz.
  - Would like to get a feed with a down-converter so could use it at 1600MHz.
  - Pulsars: Joe W5SO showed Rich how he does pulsars on his system. Rich wants help improving antenna gain, and pointing accuracy. He would also like to reduce RFI.
  - The RASDR can do 420 MHz and 1420MHz.
  - RFI from Military Trunked radio at 408MHz is an issue so need to stay away from it.
- 2020 - March 27<sup>th</sup> through March 29<sup>th</sup> is the western region SARA conference at Socorro, NM.
- Ray Uberecken:
  - Ray has a 12 ft dish with a RASDR-2 and could send the files to Johnathon for analysis.
  - Ray's system can do total power and the Spectra Cyber 1 doesn't do this well.
  - Also has a preamp in the shack with a three way splitter.
  - Can also do 70MHz IF.
- **ELECTIONS:** Think about the board and officers in January
- Future Plans: Get call out for Science fairs. We need to spread our net for future members.