

This STA is being requested to permit operation of a command uplink to two satellites in low earth orbit. These satellites are called the "3 Corner Satellite" mission and were developed as part of the US Air Force University Nanosatellite Program. The satellite launch is part of the Delta IV Heavy Lift Demonstration flight. The launch date is scheduled for 10 December 2004 and the initial orbit is expected to be at an apogee altitude 135.61 nmi, perigee altitude of 101.85 nmi and orbit period of 88.90 min. The expected total mission duration for the 3 Corner Satellite project is 2 or 3 days due to the low orbital altitude causing the satellites to have a rapid re-entry into the earth's atmosphere. The satellites will communicate with the project ground stations in Arizona, New Mexico, Florida, and Puerto Rico. No other users will be permitted access other than the program ground stations.

We are requesting authorization to permit the 3 Corner Satellite ground stations to use a frequency of 447.5 MHz during the satellite pass times. There are expected to be approximately 15 passes at each ground station during the mission life with each pass lasting less than 10 minutes at each ground station. During these ground station passes, the satellite controllers will need to send operational commands to the satellite. The commands can last a few seconds up to several minutes, depending upon the operational need. Not every pass will require a full-duration command link from each ground station.

The 447.5 MHz frequency was not initially chosen for the mission. The team initially requested authorization for using the 449.9. MHz frequency and this request was coordinated through the Air Force spectrum manager. The 447.5 MHz frequency was chosen by the programmers for their in-lab testing under their amateur service licenses. The correct 449.9 MHz frequency was not programmed into the satellites before the launch configuration was frozen. The frequency can not be changed while the satellites are on the rocket at Cape Canaveral. The command frequency can only now be changed once the satellites are launched. Because of the way the satellites are programmed, the command frequency correction requires a large software patch to the existing flight software. We therefore request authorization to operate the short mission at the 447.5 MHz frequency where the satellites are programmed.