**Components**

Early exposure to flight hardware development and NASA Earth and Planetary Missions, providing students with an advanced university experience lasting 1-2 school semesters. The Series provides a platform for testing technologies for future researchers in a rapid design-to-flight volume with a 30 cm length. The project uniquely pairs advanced university students with NASA engineers in a rapid design-to-flight experience lasting 1-2 school semesters. The Series provides a platform for testing technologies for future NASA Earth and Planetary Missions, providing students with an early exposure to flight hardware development and management.

**Structures**

The new design reduced the number of failure points while allowing greater payload volume and uses same flight-tested actuators as TES-6. Additionally, the TES-7 door is places next to the NanoRacks Cubesat Deployer door to further ensure against any hang-fire concerns.

**Safety Hazard**

The only potential hazard is the Li-ion batteries. Characteristics of BP955 batteries have been approved for ISS use. There are no modifications to the batteries and they are considered safe for travel. The EDSNTES satellites are powered off the entire time they are at the launch site. There is no physical access to the spacecraft while it is integrated in the dispenser. There is no safety hazard due to the storage, charging, and delivery of the batteries. There are no modifications to the batteries and they are considered safe for travel. The EDSNTES batteries have been approved for ISS use. There is no physical access to the spacecraft while it is integrated in the dispenser.

**Discussion**

TES-7 is a re-flight of the TES-5, 4, and 3 (3U in size), and a continuation of the original 1U nanosat, TechEdSat-1 flew in 2012. With approximate mass is 2.849 kg, it has the same approach, integration, and safety regulations. TES-7 is currently scheduled to launch by Virgin Orbit on September 1, 2018. The flight experiment is intended to master the Nano-satellite communications systems, as well as control de-orbit device called “modulated Exo-Braze”. The approximate mass is 2.849 kg. After removal of the Remove before Flight (RBF) at the integration of the satellite, the TES-7 will be loaded into the deployer.

**Future Work**

The goal of the Technical Education Satellite (TechEdSat) is to employ a small spacecraft to evaluate, demonstrate, and validate new technologies for future missions to the surface of Mars and other planetary bodies in the solar system. TechEdSat-7 specifically will help improving low ballistic coefficient of about 1kg/m$^2$ for very rapid deorbit.

**References**

Project at NASA Ames Research Center, Moffett Field, California. For more information about Ames, visit: [http://www.nasa.gov/ames](http://www.nasa.gov/ames)

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