

MATERIALS AND STRUCTURES SYMPOSIUM (C2)  
Space Environmental Effects and Spacecraft Protection (6)

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AGENCY ELECTRONICS, ELECTRICAL, AND ELECTRO-MECHANICAL (EEE) PARTS SYSTEM

**Abstract**

NASA's visions and goals are accomplished through research, various earth science and space science missions, and also through the development of advanced technology pertaining to hardware and software including aeronautics. These various missions are carried out at the various NASA Centers and involve building spacecrafts and instruments to conduct experiments. The hardware to build systems and sub-systems involves the use of electrical, electronics, and electro-mechanical (EEE) parts. Therefore, parts to be used in such missions are carefully scrutinized against the stringent, and specific requirements of the mission and the space environment before they are approved for use on the missions. Each center performs this activity based on the process unique to their center and stores this information in a system (either center level or project level). These systems are not integrated, and may not be following a uniform process in the approval of the part. This has resulted in inconsistent information, duplication of effort in some cases, and non availability of complete information pertaining to EEE parts used across the agency including information about residual inventory. This paper describes a method to adopt the development of an integrated agency EEE Parts capability with a built-in process that is followed in the selection, approval, and procurement of the parts including process steps that are unique to a particular Center. The paper will highlight the advantages and disadvantages of implementing such a system and provides further recommendations on what can be done as future work to further enhance the system's capability.