

Featured Project

NASA-Ames Research Center Vertical Motion Simulator

Moffett Field, California

NASA's Vertical Motion Simulator (VMS) is a state-of-the-art man-rated flight simulator used for research on vertical take-off vehicles (VTOL) and space shuttle landing training. ArcSine Engineering provided design, construction management, and startup and acceptance testing for two major simulator projects: Six-Degrees-Of-Freedom Flight Simulator (S.01 Simulator) and Vertical Motion Simulator (VMS). ArcSine's scope of work included maintenance and improvements for drive and building power, dc drives, ac drives, hydraulic drives, failsafe hardwired safety systems, and feedback control systems.

ArcSine also performed an investigative study of replacement drive systems and replacement digital control systems for facility-wide upgrades. ArcSine developed a facility master plan, including a facility-wide electrical/electronic evaluation, recommendations, and design of upgrades. ArcSine's continuing maintenance and troubleshooting of the VMS resulted in the design and replacement of an obsolete annunciator with a sequence-of-events recorder and an obsolete Mode Control Unit with a high-speed programmable digital system.

ArcSine participated as the Facility Representative for electrical and controls for an \$8.5 million Construction of Facilities (COF) project. For this project, ArcSine developed a feasibility study including the models of system masses and inertias to determine the theoretical performance limits of each servo axis and the recommendations for necessary areas of improvements to meet FAA standards.

Electrical
Construction Services
Startup/Acceptance

