

**LONG-LIVED, MANEUVERABLE, SEMI-BUOYANT PLATFORM FOR VENUS UPPER ATMOSPHERE EXPLORATION.** G. Lee<sup>1</sup>, D. Sokol<sup>2</sup>, R. Polidan<sup>3</sup>, L. Bolisay<sup>4</sup>, and N. Barnes<sup>5</sup>

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**Introduction:** The Northrop Grumman Aerospace Systems and L'Garde team has continued to investigate a capability to provide a long-lived, maneuverable platform to explore the Venus upper atmosphere. This capability is an implementation of our Lifting Entry/Atmospheric Flight (LE/AF) system concept, and the Venus implementation is called the Venus Atmospheric Maneuverable Platform (VAMP). The VAMP concept utilizes ultra-low ballistic coefficient ( $< 50$  Pa), semi-buoyant aircraft that deploys prior to entering the Venus atmosphere, enters without an aeroshell, and provides a long-lived (months to years) maneuverable vehicle capable of carrying science payloads to explore the Venus upper atmosphere.

In this presentation, we will discuss the overall mission architecture and concept of operations from launch through Venus arrival, orbit, entry, and atmospheric science operations. Specifically, we will focus on major system features and functions, and strawman concept of VAMP operations including entry and day-in-the life of VAMP during science operations in the Venus atmosphere. We will also discuss how the scientific studies enabled by VAMP mission will contribute to VEXAG 2014 Goals 1 and 3.