

Aerospace Operations from Earth to the Moon: ORBITEC announces new Testing Services

Madison, Wisconsin - June 4, 2009: Aerospace hardware, whether for jet engines, space station payloads or lunar surface components, has some of the most demanding requirements of any design application. To ensure proper verification and validation during operations, Orbital Technologies Corporation (ORBITEC) is now offering commercial in-house testing capabilities for systems, subsystems, and components.

Led by ORBITEC's Human Support Systems and Instrumentation Division, the test capabilities include vibration, vacuum, thermal and humidity cycling, shock, lunar dust exposure, acoustic load, altitude, vacuum, and lifetime testing. Other capabilities supporting testing include precision gas mixing capabilities and gas chromatography mass spectrometry.

"We've been able to combine our 20 years of experience in developing systems and components to sustain life within closed environments with our extensive knowledge of propulsion and lunar surface conditions to provide this unique service," said Thomas Crabb, President of ORBITEC. "These combined capabilities also let us develop custom test scenarios to established NASA specifications or MIL standards quickly and accurately."

ORBITEC is one of the first facilities to provide commercial lunar dust exposure testing. The lunar dust environment poses numerous risks to long term reliability and mission success. The company's test techniques can be employed to understand sensitivity to lunar dust in the operation and performance of components and subsystems. Using standard NASA lunar regolith simulants along with proprietary lunar agglutinate and dust simulants, ORBITEC can test components that may contain bearings, bushings, gears, ball-valves, seals, lubricants, connectors, electronics and various rotating surfaces. Testing results provide valuable insight to reliability predictions, planned maintenance of a system and identify potential failure modes and help ensure proper system performance and achieved reliability.

In addition to its lunar dust chamber, ORBITEC's testing facilities include five controlled environment chambers of sizes up to 250 square feet for thermal, humidity and life cycle testing. Inside each chamber, devices are stressed in environments beyond that expected in their associated operational applications. Another testing room is dedicated to vibration testing (random and/or sinusoidal) to determine the ability of hardware and components to withstand the dynamic stresses characteristic of manned-launch vehicles, rocket engines, high-thrust jets and motor vehicle applications, or the effect of frequency vibration in rockets, aircraft, missiles, and tanks.

"Our in-house test capabilities have enabled us to screen and qualify new components early in the design phase," said Todd Treichel, ORBITEC's Systems Engineering Manager. "These services can also help companies avoid test



ORBITEC's Lunar Dust Test Chamber

schedule delays and ensure their customers of the design ruggedness required for their products."

For more information about our testing services, visit us online at www.orbitec.com.

About ORBITEC

For over 20 years, ORBITEC has been a leading subsystems integrator and high technology development company from its base in Madison, Wisconsin. ORBITEC offers commercially mature solutions and cutting-edge product development in five distinct areas: Propulsion, Space Resources, and Energy, Human Support Systems and Instrumentation, Emergency Response Systems (HMA LLC), BioProducts and BioProduction Systems, and Interactive 3D Systems and Services (Hypercosm).

ORBITEC's Human Support Systems and Instrumentation Division develops cost-effective systems, subsystems, and components to sustain life within closed environments for space travel and habitation. This includes environmental control and monitoring solutions for pressure control, oxygen supply, temperature and humidity control, ventilation, thermal transport, water processing, food and waste management, as well as fire detection and suppression.

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