Nestled in the foothills of the San Andres mountains in southwestern New Mexico is the NASA White Sands Test Facility, a remote component of Johnson Space Center. The facility was constructed to conduct tests involving spacecraft rocket propulsion systems, toxic or highly reactive chemicals, and potentially hazardous materials – tests that can't be performed safely in more heavily populated areas such as Houston.

Our capabilities for space-simulated vacuum firings of solid and liquid rocket propulsion systems are among the best in the Nation. We have sophisticated laboratories for investigating potentially hazardous materials and components for Earth-based and aerospace applications. Although most of our work is done for NASA, many other fascinating and challenging test projects are conducted for the U.S. Army, the U.S. Navy, and the U.S. Air Force as well as for other Government agencies and private industry.

We also test rocket engines, resolve space mission anomalies, and evaluate new materials and components. Our engineers and scientists clean and refurbish Space Shuttle propulsion and life support system components for re-flight; design and fabricate spaceflight hardware; and validate redesigned or improved components to enhance mission safety and extend the operational life of existing spacecraft systems.

Our work ranges from propulsion to engineering, and administration to research. We work with unique equipment such as special light-gas guns that propel projectiles at velocities up to 8 km/s to simulate the impact of micrometeorites or orbital debris on spacecraft components. We create large-scale controlled explosions to understand the detonation phenomena of solids and liquids. And we conduct tests to see how various materials burn and how fires propagate in the microgravity of space – including the testing of new components that operate in corrosive or highly reactive environments such as pure oxygen at more than 6,000 psi, where even stainless steels and titanium alloys burn violently.

We also operate the White Sands Space Harbor, an alternate Orbiter landing site with 7-mile-long laser-leveled pure gypsum runways. Here, Space Shuttle astronauts are trained to perform the critical final approach and landing phase of their mission using specially modified aircraft that simulate the response and aerodynamic behavior of the Orbiter.

Typical Degrees Mechanical, Electrical, Chemical, Aeronautical, and Environmental Engineering; Computer Sciences, Physics, Chemistry, Mathematics, Business Administration, Accounting, and Finance