



## Department of Energy

Washington, DC 20585

July 31, 2025

Mr. Roger R. Rocha  
President  
Mission Support and Test Services, LLC  
Nevada National Security Sites  
232 Energy Way  
North Las Vegas, Nevada 89030

WEL-2025-04

Dear Mr. Rocha:

The Office of Enforcement has completed an investigation into an indoor experiment involving the detonation of an explosive test article inside a clear polycarbonate Radio Frequency (RF) Boom Box (i.e., containment vessel), that occurred on June 2, 2023. The detonation resulted in the unplanned destruction of the containment vessel at the National Nuclear Security Administration, Nevada National Security Sites' Special Technologies Laboratory (STL) located in Santa Barbara, California, as reported into the Department of Energy's (DOE) Noncompliance Tracking System (NTS) under NTS-NA-NFO-MSTS-CO-2024-0010977, dated August 1, 2024. Mission Support and Test Services, LLC (MSTS) management at STL reported this event to the Facility Manager on March 16, 2024. Based on this investigation, the Office of Enforcement identified concerns that warrant management attention by MSTS.

The unplanned destruction of the containment vessel occurred when two workers initiated the free flow of hydrogen gas into the containment vessel at a rate of up to 10 liters per minute for approximately 2 minutes prior to the planned detonation. The combined effect of hydrogen gas and explosives exceeded the maximum pressure rating of the containment vessel, leading to its destruction and causing minor damage to other items in the room. The two workers, located in a separate and protected control room approximately 31 feet away, were not injured.

The Office of Enforcement's investigation identified concerns with MSTS's implementation of the requirements set forth in Title 10, Code of Federal Regulations, Part 851, *Worker Safety and Health Program*. The specific concerns that warrant management attention include the following:

- MSTS did not promptly report the event as required by its Worker Safety and Health Program. The event occurred on June 3, 2023, but was not reported to the STL Facility Manager until March 16, 2024.
- MSTS did not develop an adequate job hazard analysis (JHA) as a part of its work planning and control process for the planned explosive test article experiment.

Specifically, the JHA did not assess the hazards of hydrogen gas (a flammable gas) or establish the necessary controls for its free flow into the RF Boom Box. Instead, MSTs relied on workers to conduct their own hazard assessments during preparation for the experiment. For example, the JHA directed workers to discuss the use of flammable gases but did not include a comprehensive hazard analysis for hydrogen gas. As a result, workers did not fully recognize the hazards of hydrogen gas, and appropriate controls were not implemented.

The Office of Enforcement acknowledges that MSTs promptly paused STL operations after the event was reported to the STL Facility Manager in March 2024. However, because the event was not reported in a timely manner, MSTs did not secure the scene, preserve evidence, investigate the event, or conduct a causal analysis until after March 2024. Following the pause, MSTs strengthened its work planning and control process by establishing senior leadership oversight and incorporating subject matter experts into the review and approval of experimental procedures. These changes were made to increase the rigor of safety protocol evaluations across STL as well as other NNSS satellite locations. The Office of Enforcement also recognizes MSTs's participation and transparency in the investigation. The Office of Enforcement has reviewed MSTs's corrective action plan and subsequent actions and has concluded that these measures appear to address the underlying causes and should be effective in preventing recurrence.

The Office of Enforcement has elected to issue this Enforcement Letter to convey concerns with MSTs's reporting and work planning and control processes. Issuance of this Enforcement Letter reflects DOE's decision not to pursue further enforcement activity against MSTs at this time. In coordination with DOE's National Nuclear Security Administration, the Office of Enforcement will continue to monitor MSTs's efforts to maintain a safe workplace.

This letter imposes no requirements on MSTs, and no response is required. If you have any questions, please contact me at (301) 903-7707, or your staff may contact Ms. Shannon Holman, Director, Office of Worker Safety and Health Enforcement, at (301) 903-0100.

Sincerely,



Robin M. Keeler  
Acting Director  
Office of Enforcement  
Office of Enterprise Assessments

cc: Barry Thom, Mission Support and Test Services, LLC  
Betty Huck, NA-NV