



OE-3: 2013-01

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Lack of Familiarity with Infrequently Operated Vehicles Puts Drivers in Danger

PURPOSE

This Operating Experience Level 3 (OE-3) document provides information on a significant recurring safety concern related to Department of Energy (DOE) site employees and contractors who check out and drive vehicles with which they are unfamiliar. Employees frequently check out vehicles for work-related activities and may not be familiar with the operation of safety controls and other features of that specific vehicle. This lack of operating experience puts them in potential danger, as evidenced by three recent occurrences. The employees involved in these occurrences were not aware of the dangers inherent in configurations where it was difficult to see and operate safety controls such as parking brake releases. Accordingly, this OE-3 document provides recommended actions for improving personal safety and operational awareness when driving unfamiliar vehicles.

BACKGROUND

On June 26, 2009, a Lawrence Livermore National Laboratory (LLNL) employee was killed when he was ejected from a moving truck (Chevrolet Silverado 1500) while attempting to locate the brake release. The driver was not wearing a seat belt. The driver leaned out of the truck's open door for a better view of the lower console, is believed to have jammed his foot on the accelerator, and was ejected when the Silverado sped backwards and impacted adjacent vehicles. (NA--LASO-LLNL-LLNL-2009-0028, Type A Accident Investigation Report, and Operating Experience Summary issue 2009-11)

On February 19, 2010, a LLNL employee seated in the driver's seat of a General Services Administration (GSA) truck (Chevrolet Tahoe) was unable to find the brake release and exited the truck, leaving it running while the transmission was engaged. When the employee found the brake and released it, the truck began to roll backward. The employee was able to reset the parking brake, stop the truck, and avoid injury. (NA--LASO-LLNL-LLNL-2010-0009). After this event, LLNL management filed a Management Concern/Recurring occurrence report, *Unsafe Vehicle Operations Recurring at LLNL*. (NA--LASO-LLNL-LLNL-2010-0022)

On May 16, 2012, a Sandia National Laboratory (SNL) employee seated in the driver's seat of a running GSA truck (Chevrolet Silverado 2500) was unable to drive forward because the emergency brake was engaged. When she could not locate the emergency brake release from her seated position, she exited the truck to visually locate it with the door open. She held onto the door as she released the brake while the transmission was engaged and incurred broken bones when the truck drove forward, slamming the door shut on her hand. (NA--SS-SNL-2000-2012-0002)

DISCUSSION

In all three occurrences, employees were unfamiliar with the vehicle that they were operating; the molded console configuration placed some controls flush with the dash and out of the seated driver's line of sight; and vehicle check-out did not involve a walkthrough or



checklist to ensure the driver was aware of the location and operation of the controls.

Corrective actions (CA) resulting from the 2009 LLNL fatality included establishing a process for selecting the correct vehicle for the work assignment, establishing compact vehicles as the site standard, and placing safety reminder information in each vehicle. In addition, an *Operating Experience Summary* article highlighting causes of and lessons learned from the fatality was distributed throughout the DOE Complex by DOE's Corporate Operating Experience Program.

These CAs and lessons learned in response to the first LLNL occurrence and fatality in 2009 were ineffective in preventing recurrence at the site. Accordingly, LLNL took additional CAs following the second occurrence in 2010 that included:

- Issuing a sitewide recall on the vehicle (Tahoe), noting that the brake release is located where a driver cannot easily see it.
- Placing a visible sticker within the vehicle (Tahoe), pointing out where the emergency release brake handle is located.
- Performing an extent-of-condition (EOC) review to determine how many other GSA vehicles have similar parking brake configurations.
- Labeling the parking brake release on vehicles identified in the EOC.
- Working with grassroots safety committees to disseminate LLNL's Vehicle Safety Policy, which includes employee familiarity with vehicle safety features and controls.
- Performing a crosswalk between findings of both previous LLNL investigations to ensure all appropriate CAs have been identified.

Since the CAs were completed, no similar occurrences have been reported by LLNL.

RECOMMENDATIONS

The following recommendations are provided for effecting the safe operation of unfamiliar or infrequently-driven vehicles:

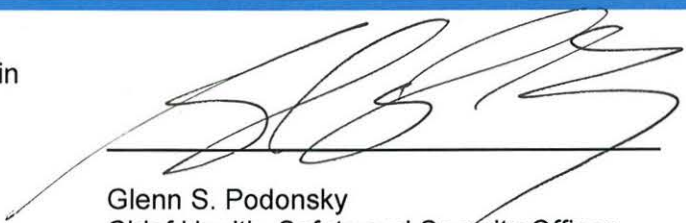
- Perform an EOC review to determine if Chevrolet Silverado and Tahoe vehicles are currently in use at DOE sites.
- If Silverado or Tahoe vehicles are used, ensure that the placement of the brake release is clearly marked and visible, and establish a protocol for vehicle check-out by employees to highlight the location and operation of all safety controls.
- Inspect a sample of all makes and models of vehicles to determine if all controls can be quickly and clearly seen and operated when the driver is seated with the seatbelt on. Establish a protocol for vehicle check-out by employees to highlight the location and operation of all safety controls.
- Post a *driver safety checklist* on the dashboard of affected vehicles.
- Establish a protocol wherein employees are put through a walk-around checklist designed to familiarize them with the safe operation of the vehicle before vehicle keys are issued and vehicles are driven.

Sites are encouraged to share their operating experience concerning these and other safety occurrences with other sites across the DOE Complex as part of their Operating Experience programs; and through the Department's Corporate Operating Experience Committee.

CONCLUSION

Employees should be familiar with the location and operation of vehicle safety controls and other features in order to safely operate a vehicle, and they should accomplish this before turning the key in the ignition. The operation of unfamiliar or infrequently-driven vehicles without an understanding of the location and operation of vehicle safety and other controls can place employees in potential danger, as evident in the three occurrences discussed in this OE-3

document. The recommendations presented in this OE-3 document can assist sites in implementing EOC reviews, establishing or improving vehicle check-out protocols, and improving employee safety when operating vehicles.



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REFERENCES

Occurrence Reporting and Processing System (ORPS) reports:

- NA--LASO-LLNL-LLNL-2009-0028, *On Site Vehicle Accident by Building 242 Results in Fatality*
- NA--LASO-LLNL-LLNL-2010-0009, *Unexpected Rolling Truck Near Miss*
- NA--LASO-LLNL-LLNL-2010-0022, *Unsafe Vehicle Operations Recurring at LLNL*
- NA--SS-SNL-2000-2012-0002, *Hand Injured in Truck Door When Vehicle Starts Rolling Away in TA-IV*

Type A Accident Investigation Report, *June 26, 2009 Vehicle Fatality Accident at Lawrence Livermore National Laboratory*, October 2009
http://www.hss.doe.gov/sesa/corporatesafety/aip/docs/accidents/typea/LLNL_TypeA_Report.pdf

Operating Experience Summary issue 2009-11, Article 1: *Type A Accident Investigation- Vehicle Fatality*

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This OE-3 document requires no follow-up report or written response.