

## **Summary Report of Occurrences Reviewed** *From August 29 – September 2, 2011*

**Summary:** 28 occurrences at 17 sites reviewed during this period.

### **Occurrences of Significant Interest (3)**

#### **Near Miss – 2 occurrences at 2 sites**

- **NA – Los Alamos National Laboratory (Significance Category 3).** On August 24, a hoist block on a fixed crane, which weighed between 50 and 100 pounds, fell approximately 25 feet into an open bay at Technical Area 15 Building 183. There were no workers in the immediate area; however, there were workers located in an adjacent work area, with the doors between the work area and open bay closed. Although there was no reason for the workers to be in the open bay area, there were no barriers to prevent them from accessing the bay. The crane was immediately locked and tagged and the crane bay was barricaded to prevent access. A critique was conducted and information was presented that indicated that the crane had been damaged when it was two-blocked (the hoist line had come into contact with the boom tip) during the installation of a heating, ventilation, and air conditioning unit in 2009. At that time, the crane had been locked and tagged out-of-service with the hoist block and tackle positioned near the tip of the boom. In July 2011, the worker who had placed the lockout/tagout retired and, per Los Alamos National Laboratory (LANL) policy, his red lock was removed. The crane remained unlocked until this event. Several concerns related to this event, including the Lockout/Tagout process for cranes, the LANL crane program process for two-blocked cranes, and the conduct of crane inspections, were identified. There were no injuries as a result of this event.
  
- **NA – Sandia National Laboratories (Significance Category 2).** On August 26, at Building 6530 (Plasma Materials Test Facility), part of a test assembly containing liquid lithium in the EB1200 vacuum chamber appears to have failed, which resulted in a small flash fire and explosion. The initial conclusion is that lithium was released into the chamber when the part failed. Some of this lithium went into a beam line that extends from the vacuum chamber and a second failure occurred in a cooled ceramic sleeve in the beam line. This second failure released coolant (water and propylene glycol) that reacted with the lithium and likely released hydrogen, as well as oxygen, resulting in the explosion. An overpressure rupture disk on the chamber operated as designed, but the pressure release was not sufficient to prevent the failure of a welded seam in a 22-inch tube connecting the beam line to the vacuum vessel. Three individuals in the vicinity of the vacuum vessel reported some degree of ringing in their ears, but a total of four individuals were sent to Medical for evaluation. The pressure from the explosion damaged the vacuum chamber and a panel of riveted wall siding and an exterior door. The facility was put in a secured state prior to departure for the day. On August 27, a team was assembled to plan re-entry into the building to ensure the facility and vacuum chamber were in a safe state and to prepare the space for access by an independent investigation team, who will investigate the event.

#### **Injury – 1 occurrence at 1 site**

- **NE – Idaho National Laboratory (Significance Category 2).** On August 30, during the performance of preventative maintenance for a 2,000 hour run time on a Class IV

laser, a Specific Manufacturing Capability (SMC) electrician received second degree burns to the middle and ring fingers on his left hand. The qualified electricians were in the process of aligning the mirrors on a Laser Optics Telescope when the event took place. In preparing to align the mirrors, the electricians selected the program parameters, as instructed in the procedures. They verified the settings within the program and proceeded to install a target by hand into the required location to take a paper shot. This procedure tests the alignment of the laser beam to ensure it is reflecting properly off the mirrors. To activate the invisible beam a technician then steps outside of the nominal hazards zone boundary and, using both hands, turns the key and pushes the button on the hand held pendant. When placing the target into place, the electrician's left hand came into contact with an unexpected, unfocused energized 2,500 watt beam and was burned. The high power was immediately turned off by the maintenance Person in Charge and the laser was placed in a safe configuration. The electrician was taken to Central Facilities Area medical and was treated for the burns to his fingers and was released to SMC with restrictions. Further investigation is required to determine why the beam was energized.

**Other Occurrences (25).** See Table (Note: The Table includes the occurrences listed above).

Occurrence Category	Number of Occurrences				Number of Sites
	E&E	NNSA	SC	DOE Total	
Injury - Industrial Hygiene/Occupational Safety	2	2	0	4	4
Near Miss	1	4	1	6	6
Authorization Basis	0	5	0	5	3
Radiological Concerns	0	2	0	2	2
Environmental	0	0	0	0	0
Fire Safety	1	0	0	1	1
Shipping / Quality Assurance	0	0	0	0	0
Criticality Concerns	1	0	0	1	1
Industrial Operations	0	0	0	0	0
Conduct of Operations / LOTO	2	1	1	4	4
Electrical Safety	1	1	1	3	3
Vehicle Accident	0	0	0	0	0
Equipment Failures	0	0	0	0	0
Safeguards and Security	0	0	0	0	0
Suspect & Counterfeit Parts	1	1	0	2	2
Other	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>16</b>	<b>3</b>	<b>28</b>	

ORPS Significance Categories	OE	SC1	SC2	SC3	SC4	R
Totals for the Week:	0	0	8	13	7	0

### Secretarial Office Summary

National Nuclear Security Administration	16 occurrences	(7 sites)
Office of Environmental Management	7 occurrences	(6 sites)
Office of Nuclear Energy	2 occurrences	(1 site)
Office of Science	3 occurrences	(3 sites)