



SAFETY ALERT

Campus Incident—Fire

RISK MANAGEMENT & SAFETY

Event: UPS Battery Fire
Date: January 21, 2017
Category: Fire
RMS Contact: Randy Crist, jcrist1@nd.edu

Contact RMS:

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Description

A battery fire occurred in an EB lithography machine uninterruptible power supply (UPS) located in a UPS cabinet in. The side and bottom of one UPS battery was burned through and several other batteries bulged and vented due to the heat produced in the fire.



Findings

- UPS batteries were valve regulated lead acid (VRLA) batteries manufactured by EnerSys (www.enersys.com), Model DataSafe HX (12HX300-FR) .
- Annual Preventative Maintenance was not performed.
- Operating batteries in temperatures > 77 degrees F shortens the battery life and can lead to internal cell shorts and premature failures.
- The UPS battery temperature & cabinet temperature are not currently monitored.



Root Causes

- No preventative maintenance, testing and inspection program.
- Lack of battery and surrounding environment temperature monitoring can.

Recommended Actions

- Implement a UPS preventative maintenance, testing and inspection program.
- Install high temperature monitor and alarm for both the batteries and the surrounding environment.
- Evaluate charger output filters and increase or replace charger output filters if needed.
- Verify UPS charger will compensate charging voltage based on battery temperature and replace if needed.