Fire Incident Report, Perkin Lab PG07, August 16, 2007

The fire took place in PG07 and involved a Harvard graduate student. Between 10:20 and 10:30 p.m., the student, working alone in the lab, was attempting to quench approximately 0.5 grams of partially oxidized rubidium by placing it in a beaker of approximately 200 ml. of methanol. The rubidium ignited and exploded.

The student dialed 911 and exited the building. The Cambridge Fire Department (with ambulance) responded to the 911 dispatch in approximately 8 minutes. The CFD put out the fire using Ansul extinguisher. The student was treated at Massachusetts General Hospital for first and second degree burns and was released the following morning. Also involved in the 911 response were the Harvard University Police, the University Operations Center, the 60 Garden Street Building Manager, and HU Environmental Health and Safety (EHS) personnel.

Specialists from the Harvard Environmental Health and Safety (EHS) group led the investigation of and response to the incident.

The fume hood was on and operating correctly at the time of the procedure. The fire, which was confined to the hood, burned for approximately 25-30 minutes.

The building fire systems operated effectively. There was no structural damage to the lab.

Extent of damage/repair: Water from the sprinklers was cleaned up on the night of the fire and steps were taken to mitigate the smoke odors. Equipment near the site was moved and chemicals that were under the hood were relocated. The suspended ceiling, lighting fixtures and telecommunications lines above the fume hood, as well as the fume hood itself, were replaced. Sprinkler heads in the immediate area of the fire were replaced. The EHS Life Safety Officer and the CFA Safety Officer followed up on the clean-up the following afternoon.
An outside contractor provided dehumidification and smoke mitigation.

Follow-up actions: The training status of all lab personnel was reviewed, an emergency flip chart and Lab Plan damaged in the fire were replaced, and lab personnel moved quickly to improve housekeeping problems that had been created by the fire. Some lab equipment will need to be replaced. All other damage (ceiling, lighting fixtures, telecom lines, sprinkler heads, etc.) has been addressed and necessary fixtures have been replaced.

Conclusion: The quenching operation should not have been performed alone. In order to prevent a similar incident, this particular operation – quenching of rubidium – by order of the Director and in consultation with EH&S is no longer allowed at the CfA.