

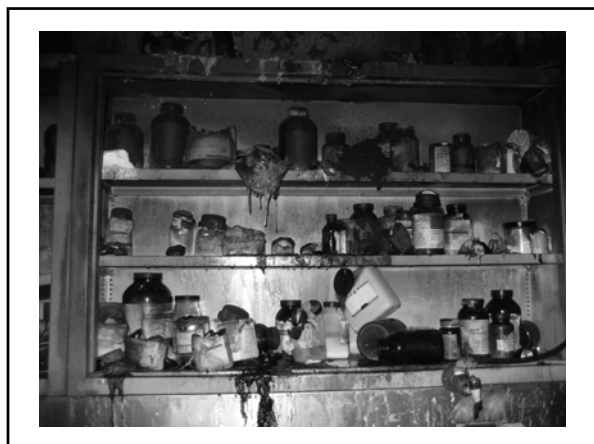
Nanaline Duke Lab Fire

Murphy's Law or Haunted Building

- On September 11, 2006 at approximately 6:05 AM, a power strip in a Biochemistry research lab overloaded and caught fire.
 - Note: A new sprinkler system in that section of the building was being installed (crew showed up at 7 AM to finish connecting).
- A quarter of the lab was destroyed including the chemical storage area.

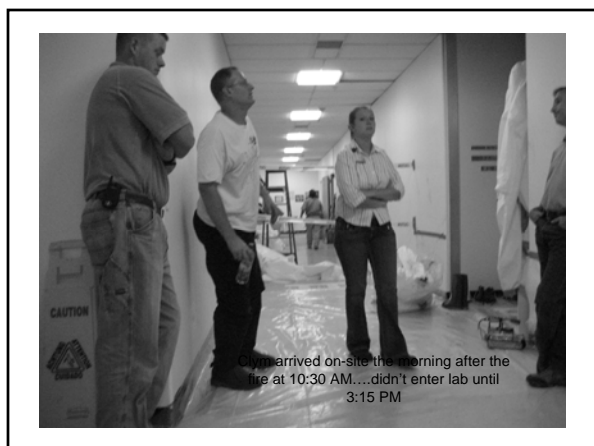
- Entire building was locked down for the rest of the day.
- OESO made entry soon after the fire was out to assess damage to the lab and building.





- After initial assessment, Clym Environmental was contracted to assist in the remediation of the chemical waste area which included biological and radioactive waste clean-up.
- OESO personnel spent that rest of the day assisting other building occupants with visits to their labs to check for damage.

- ### Day Two
- Lab Remediation Plan
 1. Clear a safe walking path to the lab.
 2. Survey the Laboratory with Radiation Meters.
 3. Segregate intact chemical containers.
 4. Segregate non-intact chemical containers.
 5. Begin packing chemical containers for transport to lab pack area.



- ### Day Two
- Insurance people, a fire investigator team, and a risk assessment team from Duke, all wanted to tour the lab. Then NC DENR arrived on site at 2:35 PM to investigate the report in the local newspaper that "radioactive material" had been released during the fire. (Work Delayed)
 - While Clym began work, OESO personnel removed the computers from the back of the lab so the insurance company could determine if they were salvageable.

Day Three

- Arrive on-site at 7 AM. Workers installing plastic “containment walls” to reduce odors in building. (Work Delayed)
- Radiation Safety onsite to remove radioactive vials from lab. (Work Delayed)
- 9:45 AM – Clym enter lab to continue segregation.
- 2:00 PM – FM Global (insurance group) onsite to tour lab. (Work Delayed)



Day Three

- 2:40 PM - PI arrives to sort biological materials in refrigerators. (Work Delayed)
- 3:00 PM – Clym returns to lab to continue work.

Week One

- Fire Department requested a list of chemicals stored in the lab. Some FD personnel are claiming illness due to fire.
- Lab PI did not have a list...has had some of the chemicals so long did not remember what they are. Attempted to determine chemical inventory from viewing adjacent lab's chemicals.
- OESO personnel attempt to determine if the fire department requested chemical inventory is correct using chemical list generated by Clym.

Day Four & Five

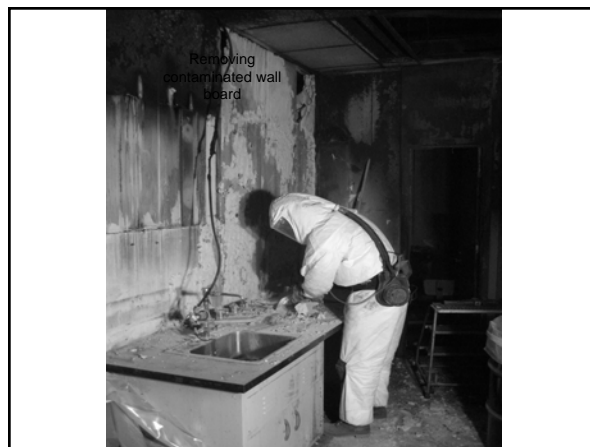
- Arrive on site at 7:10 AM and actually begin work right away!!!
- Clym continues to sort chemicals. OESO personnel begin removing biohazardous boxes and chemical waste.
- Chemical storage area is extensively resurveyed for radioactive contamination.





Week Two

- Remediation Plan - Part 2
 1. Remove lab shelving, countertop, and cabinets in chemical storage area
 2. Remove piping insulation from mechanical room
 3. Finish removing waste from the lab



Week Three

- Remediation Plan - Part 3

1. Classify unknown chemicals
2. Ship waste for disposal



Lessons Learned

- Access to impacted area **MUST** be restricted to remediation workers.
 - Project management role must be clearly defined.
- Up to date chemical and radioactive inventories are a must!!!

Outcome

- The School of Medicine has commissioned the development of an Emergency Preparedness & Response Plan for research laboratories.
 - Process has already begun. They have someone under contract.

Total OESO Project Cost

- Lab Clean-Out
 - OESO Expenses – \$12,223.23
 - Clym Environmental - \$23,465.00
- Waste Disposal
 - Laboratory Analysis – \$270.00
 - Heritage Environmental - \$7,470.00
- Total Project Costs - \$43,158.23