FIRE IN THE LABORATORY

Scenario 1

While walking down the hall you pass a laboratory with a closed door and you notice smoke coming out from under the door. When you stop to look through the window you see that the lab is full of smoke and you can barely see flames in a fume hood.

Group discussion

- What should you do?
  - pull the alarm & call 911
- What is the university's procedure for this situation?
  - Pull the alarm, call 911, and evacuate the building

The fire in question started when materials in a fume hood were ignited because they were placed in close proximity to and on top of, a muffle furnace that was running. A lab worker had started the muffle furnace to heat it up to the required temperature for the work that they would be using it for. After starting the furnace, the lab worker left the room for unknown reasons. Sometime later, the materials next to and on top of the muffle furnace, ignited and the fire broke out. In the room in question, there is a Glove Box that has water reactive chemicals in it. The room is sprinkled. There are a significant number of other chemicals stored in the lab as well. After the fire broke out, the two closest sprinkler heads activated and controlled the fire. The sprinklers continued running, flooding the hallway and rooms adjacent to the fire as well as rooms on the floor below it until the fire department arrived determined that the fire was out and shut the water off.

Group discussion

- What went wrong in this situation?
  - combustibles near heating device
  - Student/employee did not call 911
• What could be done to prevent this from happening again?
  o Keep area around heating devices clear of combustibles
  o Know ISU fire emergency response procedures

**Questions/Issues that came up during the discussion:**
  ➢ The student/employee did not call 911 - in the event that the sprinklers activate, people should always pull the fire alarm and call 911 to evacuate the building and bring the fire department.
  ➢ Keep areas around all types of heating equipment clear of combustibles at all times.

**FIRE IN THE LABORATORY**

**Scenario 2**

While working in a lab you notice that smoke is coming from a fume hood across the room. You go over to see what is going on and you find that the experiment in the hood is engulfed in flames.

**Group discussion**

• What should you do?
  o Pull the alarm
  o Call 911
  o Evacuate
  o Only use a fire extinguisher Steps 1, 2, & 3 have been accomplished, you have the appropriate training and you can safely do it.

• What is the university’s procedure for this situation?
  o Stated above

The fire in question started when materials in a fume hood ignited because a lab worker accidentally turned the stirring knob off instead of the knob controlling the heat to a flammable liquid in a beaker. The liquid heated up until it reached its combustion point resulting in the fire.

The response to this fire was to grab an extinguisher and put the fire out. No alarms went off. No other response occurred. A day or two after the fire, a technician from EH&S arrived at this lab to conduct the annual vent hood test. He found the spent fire extinguisher and saw the resulting fire damage in the hood. When he questioned the lab personnel, he was told about the fire.
The Response to the fire:

When the lab worker attempted to put the fire out with an extinguisher, the fire initially went out and then after a few moments re-ignited. They sprayed the fire a second time and the fire went out. At some point another lab worker had turned the power off to the equipment.

Group discussion

- What was wrong in this situation?
  - Not paying close attention to what they were doing, not turning off the heat, as they thought they had
  - Did not pull alarm, did not call 911, never called EH&S
- What could have happened in this scenario?
  - The fire could have reignited and spread.
  - People could have been injured or killed.
- Why didn’t the fire alarm go off?
  - The station was not pulled.

Questions/Issues that came up during the discussion:

- Verify that all heating appliances are, indeed, shut off. In this case the stirrer was turned off, not the heating element.
- An extinguisher was used, but the pull station was not activated, nor was 911 called. Anytime an extinguisher is used, people should always pull the fire alarm and call 911 to evacuate the building and bring the fire department.
- EH&S was not notified, even though the fire extinguisher was spent and there was a fire! Notify EH&S in every instance of fire or if, for any reason, the fire extinguisher is no longer charged.
- Should the chemical spill alarm be pulled? Troy answers, yes, if there is a chemical spill/release. Furthermore, if the building has no chemical spill pull station and there is a chemical spill, the fire alarm station must be pulled to evacuate the building and bring responders.
- It has come to our attention that there have been cases of people being told not to pull the fire station as such would result in a building evacuation.