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Smoking is prohibited in and within 25’ of all University buildings
INTRODUCTION

Purpose
The University of Notre Dame is committed to providing a fire-safe environment for its students, faculty, staff, and visitors, and to protect its property through an effective fire prevention, protection, preparedness, and response program. The purpose of this Fire and Life Safety Plan is to assist the University community in working together to maintain an environment that reduces the risk of fire hazards.

The Fire Prevention and Life Safety Plan outlines how the University proposes to safeguard life and property from fire and explosion hazards arising from storage, handling or use of materials or equipment, and from conditions hazardous to life and property. The requirements of the policy are based upon compliance with Indiana Fire Code (2017), enforced by the State of Indiana Fire Marshal Office, as well as other applicable federal, state, and local codes and standards.

This Fire and Life Safety Compliance Plan offers guidance on some of the most common fire and life safety issues, which if not properly addressed, can become fire code violations. This guide addresses four major areas: fire prevention, fire protection, fire emergency preparedness and fire response.

Scope and Application
The requirements in this guide apply to all University faculty, staff, students, volunteers, and outside contractors working on University premises. The plan is applicable to all occupied or unoccupied facilities owned or leased by the University, activities including storage, handling and use of materials and equipment within the facilities, and new construction and renovation from the planning stage to project completion.

Responsibility
Students, faculty, and staff are responsible for complying with the procedures outlined in this guide, and any additional procedures specific to their department or building. Each individual must follow the fire safety and emergency evacuation procedure specific for his/her building. All fire or smoke related incidents, regardless of its size, shall be promptly reported by dialing 9-1-1 from a campus phone or 631-5555 from a cell phone. Any unsafe condition or injury shall be reported to the appropriate supervisor and to Campus Safety using the OnBase tool. The Notre Dame Fire Department (NDFD) is available to assist by providing technical/code information, guidance, training, and education.

We look forward to working with our staff, students, and volunteers to provide a fire-safe environment. Please feel free to contact the NDFD for further information or clarification regarding fire and life safety issues.
IMPORTANT NUMBERS

DIVISION OF CAMPUS SAFETY & UNIVERSITY OPERATIONS
574-631-9007
safety@nd.edu

FOR EMERGENCY INFORMATION
emergency.nd.edu

TO REPORT AN EMERGENCY
Dial 9-1-1 from a campus phone
574-631-5555 from a cell phone

NOTRE DAME POLICE DEPARTMENT
574-631-5555
police.nd.edu

NOTRE DAME FIRE DEPARTMENT
574-631-6200
ndfd.nd.edu

RISK MANAGEMENT & SAFETY DEPARTMENT
574-631-2232
riskmanagement.nd.edu
FIRE EMERGENCY RESPONSE

Fire Response Procedures
In case of a fire or fire alarm activation, the following procedure shall be followed. Generally, the RACE procedure is used in all University facilities with some variations. Always consult and follow your building specific Emergency Action Plan or posted evacuation procedures.

IF YOU DISCOVER A FIRE OR SMOKE CONDITION: RACE

- **Rescue** any person in immediate danger.
- **Alarm** - pull the fire alarm to alert everyone.
- **Confine** the fire by closing all doors, where possible. Turn off electric and gas equipment in your area as you evacuate, if possible.
- **Evacuate** using the nearest stair exit. Follow the exit signs.
- Extinguish a small fire using a fire extinguisher, **if trained**.
- Report the incident by calling (574) 631-5555 from cell phone or 911 from a campus phone. Call from a safe location.
- Report any discharged fire extinguishers and any first-hand information that you might have.

IF YOU HEAR or SEE A FIRE ALARM SIGNAL or ANNOUNCEMENT:

- Follow the emergency procedure for your building and area.
- Follow the announcements on the public address system.
- Evacuate or stand by and stay alert as instructed on the public address system.
- Follow the EXIT signs. Use Stairs. Do Not Use Elevators. Walk at a normal pace.
- Wait outside in the designated assembly areas at least 50 feet or more away from the building as instructed.
- Re-enter the building only after the "All Clear" is announced by the Notre Dame Fire Department.
- If your departmental or building procedure calls for ‘shelter-in-place’ strategy, follow it carefully.

PROCEDURE FOR PEOPLE WITH DISABILITIES

- **All occupants**: report the presence of any person with a disability in the building to NDFD.
- Do not evacuate vertically unless the person is able to ambulate.
- Do not use the elevators unless assisted by the fire department.
REMEMBER Fire Extinguisher Key Words: P.A.S.S.:

**P.A.S.S.:**
- **Pull** the Pin,
- **Aim** at the base of the fire
- **Squeeze** the handle
- **Sweep** Side-To-Side

### TYPES OF FIRE EXTINGUISHERS ON CAMPUS

<table>
<thead>
<tr>
<th>Fire class</th>
<th>Geometric symbol</th>
<th>Pictogram</th>
<th>Intended use</th>
<th>Mnemonic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td><img src="image" alt="A Symbol" /></td>
<td><img src="image" alt="A Pictogram" /></td>
<td>Ordinary solid combustibles</td>
<td>A for &quot;Ash&quot;</td>
</tr>
<tr>
<td>B</td>
<td><img src="image" alt="B Symbol" /></td>
<td><img src="image" alt="B Pictogram" /></td>
<td>Flammable liquids and gases</td>
<td>B for &quot;Barrel&quot;</td>
</tr>
<tr>
<td>C</td>
<td><img src="image" alt="C Symbol" /></td>
<td><img src="image" alt="C Pictogram" /></td>
<td>Energized electrical equipment</td>
<td>C for &quot;Current&quot;</td>
</tr>
<tr>
<td>D</td>
<td><img src="image" alt="D Symbol" /></td>
<td><img src="image" alt="D Pictogram" /></td>
<td>Combustible metals</td>
<td>D for &quot;Dynamite&quot;</td>
</tr>
<tr>
<td>K</td>
<td><img src="image" alt="K Symbol" /></td>
<td><img src="image" alt="K Pictogram" /></td>
<td>Oils and fats</td>
<td>K for &quot;Kitchen&quot;</td>
</tr>
</tbody>
</table>

Using the Fire Alarm Pull Box

As you walk towards an EXIT in the corridor or near the stairwell door, you should find at least one wall-mounted metal box - a fire alarm pull box. In case of fire or smoke, just pull it down as indicated, an alarm will sound and an announcement may also follow, where equipped. The alarm
The building's fire alarm system can also be activated automatically when a heat or smoke detector senses a fire or smoke condition. Once the alarm is activated, notification goes to the Notre Dame Fire Department and Notre Dame Dispatch Center (ND Dispatch). ND Dispatch then dispatches appropriate responders. Use the fire alarm pull box promptly to minimize the loss of life and property due to fire.

Some pull boxes have Plexiglas covers which, when lifted, produce a local warning sound. Note that this is not a fire alarm sound. To activate the fire alarm throughout the building, you must pull the inner pull box.

To ensure that the system will protect you, you should know at least two pull box locations in your area. The areas around pull boxes shall be clearly visible and free of obstructions at all times.

Report any fire alarm related concerns to: **NOTRE DAME FIRE DEPARTMENT: 574-631-6200**

**Fire Incident Response**
In addition to the fire evacuation procedure, the following responses may be necessary:

**Fire extinguishment**
A fire extinguisher should only be used for small, incipient stage fires such as ones that might occur in a wastepaper basket, and only by a trained individual. A large, developed or spreading fire shall be handled by NDFD.

**Clothing Fire and Burn Injury Response**
What you do for a burn in the first few minutes can make a difference in the severity of the injury!
1. Stop the burning process and remove the source of heat. If clothing catches fire, STOP, DROP, AND ROLL to smother the flames.
2. Remove all burned clothes. Clothing may retain heat and cause a deeper injury. If clothing adheres to the skin, cut or tear around the adherent area to preserve good skin tissue.
3. Pour cool water over areas burned. Keep pouring the cool water for at least 3-5 minutes (30-40 minutes for chemical injury). DO NOT PACK THE BURNED AREAS IN ICE! This may increase the extent of injury and cause hypothermia.
4. Remove all jewelry, belts, tight clothing, etc. from the burned areas and the victim’s neck. Swelling of burned areas occurs immediately!
5. Do not apply ointments or butter to wounds. These may cause infection due to their oil base and convert wounds to deeper injury.
6. Cover burns with a clean dry dressing, bandage, or sheet.
7. Keep the victim warm.
8. Seek medical attention as soon as possible.

Rescue and Emergency Medical Procedure

All incidents requiring emergency rescue or medical treatment shall be coordinated by NDFD. Call 9-1-1 (campus phone) or 631-5555 (cell phone) to report an emergency.

Fire or Smoke Incident Reporting

Students, staff, faculty, volunteers, and outside contractors working on University premises shall immediately report all fire or smoke incidents regardless of its size or type, by calling 9-1-1 (campus phone) or 574-631-5555 (cell). This notification must be made regardless whether the fire has been already been extinguished.

REPORT ALL FIRE OR SMOKE INCIDENTS BY CALLING 9-1-1 or 631-5555

The fire scene shall not be disturbed. Removing any items from the fire or smoke scene without prior approval is prohibited. This is to ensure that no evidence, which may be critical to an incident investigation, is lost. The affected department shall promptly notify the Incident Commander or ND Dispatch Center if there is a potential for further damage to property or injury to the occupants if left on the fire scene. Where the department must act swiftly to protect valuable research or records from further damage, it shall be made known to the Incident Commander or ND Dispatch Center. The Notre Dame Fire Department documents all fires, regardless of size.

The area of the fire cannot be re-occupied until Campus Safety Officials announce, “All Clear”.

Responding Fire Department

Once a fire alarm is activated, notification goes to the Notre Dame Dispatch Center who dispatches the appropriate responders. If you have specific emergency related information, share it with the responding Campus Safety personnel.
FIRE EMERGENCY PREPAREDNESS

Emergency Evacuation Plans

Each University-owned or leased facility has an Emergency Action Plan (EAP) specific to that location. Each building manager or designated building contact is responsible for developing and distributing an Emergency Action Plan to building occupants. Once developed, the building contact shall provide a digital copy of the plan to RMS for inclusion in the University’s EAP repository.

Upon discovering a fire or smoke condition or upon hearing a fire alarm, each building occupant shall follow the instructions as noted in their building’s plan and/or posted evacuation floor plan. Emergency procedures may require either total or partial building evacuation. Special “defend-in-place” procedures may be utilized for areas where critical activities are occurring. Procedures are available in one or more of the following formats:

Building Emergency Action Plans are required for all buildings. Copies of these plans shall be made available to employees for review and use. Each written plan outlines the roles and responsibilities of departments or individuals during an emergency. Topics such as evacuation, communications, emergency procedures, fire safety, training, planning, and implementation are primary components of the EAP. In addition, individual departments may add or create supplementary appendices to the EAP to satisfy the needs of a specific area.

View your EAP at Emergency Action Plans.

Emergency evacuation floor plans may be posted throughout the building to assist the building occupants in familiarization with their location, directions to exit, location of fire protection and safety devices. These plans also include a brief fire alarm emergency procedure. As you walk out from your work-area to an EXIT, you may find an evacuation floor plan posted on a wall, probably near the elevator lobby or fire alarm pull box. Take time to review the information for your safety.

Emergency Procedures for People with Disabilities

People with disabilities (PWD) are more at risk during an emergency. Their presence in the stairwells during an emergency, especially when stair landings are crowded with evacuating people, can impede the flow of evacuation, potentially causing injury to both the evacuees and people with disabilities. Therefore, sheltering in place or their safe evacuation during fire or other emergencies, requires planning.

These guidelines have been developed to promote the safety of people with disabilities and all building occupants during emergency situations including fire alarm evacuation.
Guidelines:

♦ Follow the building’s Emergency Action Plan (EAP) until specifically instructed otherwise by the Notre Dame Fire Department (NDFD).
♦ As you are evacuating, ask if anyone needs assistance.
♦ Report the presence, number, and specific location of any person with a disability in the building to NDFD after exiting.
♦ If assisting a person with a disability,
  o Remove them from immediate danger and assist them to a designated waiting area, usually the nearest exit stairwell.
  o Position them and yourself on one side of the stairwell such that traffic is not obstructed.
  o Never attempt to move or evacuate any person using stairs or using elevators unless instructed to by NDFD.
    o Important: Do not lift any person unless you are specifically trained and it is required by your department-specific procedure. Provide a plain brief note to a person with a hearing disability, if necessary. Offer your elbow to any visually impaired person to guide them to safety. Communicate as needed, to assure safe evacuation.
    o Note: Stairway evacuation of wheelchair users shall be conducted only by trained professionals such as the responding Fire Department, and only after major traffic has passed. Discourage any person with mobility impairment from using stairs without assistance.
♦ Always keep the stairwell fire doors closed. If stairwell doors are left open, smoke may enter the stairwell.
♦ Once people with disabilities are positioned at a safe waiting area, evacuate, and report the exact location and # of people with disabilities to NDFD.

NDFD can aid individuals or departments seeking guidance on how to assist persons with disabilities during emergencies.

Fire Exit Drills

Fire exit drills provide an opportunity for students, faculty, staff, and emergency responders to become familiar with the building fire safety features, to practice emergency procedures, and to ensure the efficient and safe use of exits.

NDFD will conduct a fire evacuation drill for each building per the following schedule:

• Undergraduate Residences: 4x / academic year
• All other buildings: annually

To the extent possible, NDFD shall coordinate scheduled drills with building occupants to minimize disrupting normal operations. Evacuations resulting from an unscheduled fire alarm shall be considered a fire evacuation drill. NDFD completes and maintains the Indiana Fire Drill Record form (provided in ‘Forms and Procedures’ section) for record keeping.

Any issues identified during the drills shall be promptly addressed.
Fire Alarm Procedure Evaluation

The responding NDFD firefighters shall complete a Fire Drill Checklist (in ‘Forms and Procedures’ section) to evaluate all fire alarms, including fire exit drills and fire incidents. The purpose of this form is to evaluate fire alarm response performance and identify and correct any deficiencies.

Fire Safety Training and Education

Fire and life safety training and education is provided to the faculty, staff, and students as part of fire exit drills, hands-on fire extinguisher training, student orientation programs, and other training as necessary. Department managers or supervisors shall ensure that their staff is adequately informed and/or trained. At a minimum, this includes training each employee on their building specific emergency action plan and the use of fire extinguishers (available in complyND).

NDFD offers additional training as requested. Topics include: how to sound an alarm; how to isolate the fire or smoke; how to evacuate; how to use a fire extinguishers; fire exit drill procedure; and the location of fire exits, pull boxes, exit stairwells and areas of refuge.

Fire Extinguishers

Portable fire extinguishers of appropriate type and size are provided as required in all areas. Extinguishers are inspected, tested, maintained, and documented as required by the Indiana Fire Code and FM Global recommendations by a contracted vendor. Fire extinguishers are provided throughout all ND buildings for use by trained students, faculty, and staff. The NDFD provides related classroom training during scheduled hands-on training events. Each user shall be familiar with the following basic safety information in the fire extinguisher fact sheet.

Portable fire extinguishers effectively extinguish 90% of all fires before fire department response. Research shows that fires get out of control in 3-5 minutes. A fire extinguisher is your First-Aid to fire fighting. An average extinguisher discharges completely in less than 1 minute. Therefore, it is important that you know at least two extinguisher locations nearest to your work area and how to use it effectively.

Safety Precautions:

♦ Before using a fire extinguisher, ALWAYS pull the building fire alarm. Another person shall notify Campus Safety by calling 9-1-1 (campus phone) or 631-5555 (cell phone).
♦ Do not attempt to use a fire extinguisher if the fire is large and spreading. Use it only for small fire-defense, e.g., a wastepaper basket.
♦ Do not use the fire extinguisher if the lock pin is tampered, the cylinder is damaged, or if the pressure gauge pointer is in the ‘RECHARGE’ zone.
♦ Do not use the fire extinguisher if you are not trained and confident about using it.
♦ Read the extinguisher label to check if it is of the right type for the kind of fire at hand. The label indicates one or more of the following fire classes and symbols, and specific applications for which it can be used.
Protect yourself at all times:
- Never block your escape route.
- Stay low. Avoid breathing the heated smoke and fumes.
- If the fire cannot be controlled, get out immediately to safety.

**Types of Fire Extinguishers:**

<table>
<thead>
<tr>
<th>CLASS</th>
<th>SYMBOL</th>
<th>APPLICATION</th>
<th>IDENTIFICATION / DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Letter &quot;A&quot; in Triangle</td>
<td><strong>Ordinary Combustibles</strong> (wood, paper, cloth)</td>
<td>Stainless steel cylinder body with pressure gauge. Cools fire with pressurized water. Do Not use for flammable liquids (B) or electrical (C) fire.</td>
</tr>
<tr>
<td>B</td>
<td>Letter &quot;B&quot; in Square</td>
<td><strong>Flammable Liquid &amp; Gases</strong> (gasoline, oil, paint)</td>
<td>Red cylinder body and horn, No gauge. Deprives the fire reaction of oxygen with carbon dioxide. Home kitchen fire use.</td>
</tr>
<tr>
<td>C</td>
<td>Letter &quot;C&quot; in Circle</td>
<td><strong>Energized Electrical Equipment</strong> (powered appliances)</td>
<td>Interrupts chemical chain reaction. Both carbon dioxide &amp; ABC type extinguishers can be used.</td>
</tr>
<tr>
<td>ABC</td>
<td>A, B &amp; C</td>
<td><strong>All of the above applications</strong> (Multipurpose, home use)</td>
<td>Red cylinder body. Interrupts chemical chain reaction of fire with dry chemical powder. Most commonly used.</td>
</tr>
<tr>
<td>D</td>
<td>Letter “D” in Star</td>
<td><strong>Combustible Metals</strong></td>
<td></td>
</tr>
</tbody>
</table>
How to Use a Fire Extinguisher:

♦ Position yourself a safe distance from the fire (e.g., 8-10 feet when using an ABC-type unit, 5-7 feet when using a CO2 unit, or 20-25 feet with Pressurized Water extinguisher).

♦ Remember the ‘PASS’ Procedure:
  - Pull the pin: This unlocks the operating lever and allows you to discharge the extinguisher.
  - Aim low: Point the extinguisher nozzle/horn/hose at the base of the fire.
  - Squeeze and hold the handle to discharge the extinguishing agent without any interruption.
  - Sweep slowly from side to side as you hold the handle squeezed.

♦ Move closer carefully as the fire gets smaller and as you continue spraying.

♦ Watch the fire area until it has completely cooled down.

♦ Repeat the ‘PASS’ procedure if the fire re-ignites.

♦ Report the discharged extinguisher to NDFD at (574) 631-6200. Once used, the extinguisher must be recharged. Do not return the used or discharged fire extinguisher to the hook or box it was removed from.
BUILDING FIRE PROTECTION SYSTEMS

**Fire Alarm Systems**

As you walk in the hallways on your way to an EXIT – and usually near the stairwell door - you should find at least one fire alarm pull box. In case of fire or smoke, ALWAYS pull the alarm box first, regardless of the size of the fire. Upon pulling this box, an alarm will sound and verbal instructions might also follow.

The alarm system will also be activated automatically when a heat or smoke detector detects a fire or smoke condition – protecting both people and property even when the fire is not noticed by an individual. Once the alarm is activated, notification goes to the Notre Dame Dispatch Center and Notre Dame Fire Department. Your awareness and prompt use of the fire alarm system can minimize the loss of life and property due to fire. To ensure that the system will protect you, you must:

- Evacuate during all fire alarms.
- Respond to all alarms equally. Never assume that it is a test or a drill or a false alarm.
- Become familiar with your building’s fire alarm system and alarm notification procedures.
- Know at least two pull box locations in your area.
- Know how to activate the fire alarm.
- The areas around pull boxes shall be clearly visible and free of obstructions at all times. Report issues with the alarm (e.g. alarm not heard), to the Notre Dame Fire Department.
- Some pull boxes have Plexiglas covers which when lifted, produce a local warning sound. Please note that this is not a fire alarm sound. To activate the fire alarm throughout the building, you must pull the inner pull box.

**Sprinkler Systems**

Sprinklers are installed in most building areas to protect both life and property. In case of fire, each head detects temperature in the room and begins spraying water as soon as the room temperature exceeds a predetermined value. Not all buildings or areas are equipped with sprinkler systems.

As you store materials and boxes in your area, always maintain a minimum of 18” clearance between the ceiling and the storage. This clearance allows the sprinkler head to spray water uniformly and extinguish the fire effectively. If you notice any unsafe conditions such as a sprinkler head that is painted over or heavily laden with dust, blocked in any other manner or broken, promptly report this condition to the Notre Dame Fire Department.
**Fire and Smoke Doors**

University buildings are equipped with fire-rated and smoke-barrier doors. These doors prevent smoke and heat from traveling up stairwells and along corridors. NDFD and the Notre Dame Lock Shop maintain these doors, including all hardware. Do not prop open or block a fire-rated door.

**Fire Hose Connections**

As you walk through the building corridor, you may find cabinets marked “Fire Dept Valve”. The fire department generally connects their fire hose to this connection. This area must remain free of obstructions and be clearly visible at all times. If you see any fire hose connection that is not properly capped or a cap is missing, please report it to the Notre Dame Fire Department.
FIRE PREVENTION

Avoiding Fire Code Violations

The University is required to comply with the fire safety regulations enforced by the State Fire Marshal. Therefore, the University is subject to various inspections by these agencies. The NDFD inspects all buildings owned and operated by the University on at least an annual basis.

The following tips reflect the most cited violations on routine fire and safety inspections. Look for these items or conditions in your workplace, correct them or ask NDFD or RMS for assistance.

Maintain Safe Egress Corridors

♦ Maintain all egress corridors in a safe condition, available for immediate utilization and free of all obstructions. Corridors and exit accesses shall be free from obstructions or impediments to full instant use in case of fire or other emergency.
♦ Do not store combustibles, hazardous materials in any egress corridors.
♦ Maintain fire alarm pull boxes, fire extinguishers, hose connections, audio-visual alarm flashers, safety showers, eyewashes, and other emergency response equipment free of obstructions and clearly visible at all times.
♦ Do not use doorstops, wedges or other unapproved hold-open devices with fire rated or smoke doors.

Maintain Safe Ceiling Clearances in All Areas:

♦ Maintain at least 18-inch clearance between all material storage and ceiling.

Maintain Safe Chemicals Storage in Laboratories:

♦ The quantities of flammable and combustible liquids in laboratories shall be limited in accordance with the RMS Laboratory Flammable/Combustible Liquid & Compressed Gas Handling/Storage Procedure.
♦ Store flammable liquids not in active use in an approved flammable storage cabinet.
♦ Consult NDFD & RMS for a safety review if quantities are expected to exceed the above limits.
♦ Keep all chemical containers, which are not in active use, properly capped.
♦ Do not store any (empty or full) chemical bottles or containers on the laboratory floor without proper containment.
♦ Properly segregate incompatible chemicals (e.g. oxidizers and flammables not stored together).
♦ Flammable liquids and chemicals shall only be stored in refrigerators/freezers rated as laboratory-safe. Do not store flammables in standard refrigerator or freezer or cold room.
♦ Do not keep peroxide forming chemicals (time-sensitive chemicals) such as ethers beyond the pre-printed expiration date on the label unless tested to confirm the absence of peroxides.
♦ Restrict the container size for all flammable liquids per Table 1 in the Lab Flammable Liquid & Combustible Gas procedure.
Do not dispense by gravity, any flammable liquids in quantities of one gallon or more. Use approved pumps taking suction from the top of the container.

Collect hazardous waste in appropriate containers. Submit a chemical discard tag using the On-Base system to schedule pick-up by RMS.

Compressed Gas Cylinders

- Secure all cylinders (in service or storage, full or empty) adequately with chains, or similar device, to prevent falling or being knocked over.
- Make every effort to limit the number of cylinders of flammable compressed gas. Cylinders shall not be stored in elevator lobbies or means of egress pathways.
- Group different types of gases in a laboratory according to their properties. Keep flammable gases (e.g., acetylene, ethylene oxide, hydrogen) separate from oxidizing gases (e.g., oxygen) by at least 20’.
- The following gas cylinders shall be stored in mechanically ventilated gas cabinets:
  - All bottles with a health hazard rating of 3 or 4 regardless of size
  - Some cylinders health hazard 2 greater than lecture bottle size. Contact RMS for guidance.
- Ensure that all cylinders are properly marked with the name and hazard (if applicable) of the contained gas.
- Report any damaged cylinder or valve immediately to RMS and the supplier.

Electrical Safety:

- Report any defective or damaged wiring or equipment promptly.
- Keep wiring and cords away from general traffic areas and secured properly to prevent falls/trips.
- Do not use extension cords as a substitute for permanent wiring.
- Plug heavy equipment like refrigerators or freezers directly into an outlet. Never plug appliances (microwaves, toaster, coffee pots) into power strips or surge protectors.
- Maintain proper clearances between electrical equipment and hazardous chemical storage.
- Maintain at least 36” of clearance around all electrical panels.

Fire/Heat and Smoke Detectors:

- Smoke detectors are installed in your area to save life and property. If these devices are covered by plastic or other objects, report the condition to the NDFD.

Emergency Exits:

- Emergency exits are provided in all buildings. Report if any exit is blocked by storage or by snow/ice. Fire-rated doors or smoke-barrier doors protect people and property in case of fire. If you discover any such doors damaged or not working properly report it immediately to the building manager or directly to NDFD.
Door Stops, Wedges and Hold-Open Devices:

♦ Fire doors shall not be permanently propped open by doorstops, wedges and hold-open devices not approved by the fire codes.
♦ Where such devices are used to accomplish tasks (e.g. moving furniture or materials through the doors etc.), they must be promptly removed once the task is complete.
♦ Report use of such devices on a permanent basis in your area.
♦ NDFD must be consulted prior to the installation of a permanent hold-open device on any means of egress doors.

Workplace fire safety conditions are evaluated on a regular basis to assure compliance with applicable Fire Codes, OSHA standards, and University guidelines. The Indiana Fire Code requires that all fire and life safety systems, including fire detection and alarms, sprinklers, fire hydrants, fire pumps and others be inspected, maintained, and tested regularly.

While these features are inspected by Campus Safety staff, routine walk-through inspections by building occupants are also extremely important. For instance, items temporarily stored in the EXIT passage may become permanent, creating a life safety hazard if not immediately addressed. Therefore, every individual should know and check his/her areas and activities for fire safety. Contact NDFD and/or RMS for assistance or appropriate corrective measures.

Compressed Gases and Cryogenic Liquids

All compressed gases and cryogenic liquids shall be stored, handled and used in accordance with the requirements of the applicable Indiana Fire Code, ND's Chemical Hygiene Plan (CHP) and OSHA regulations to minimize the hazards of fire, explosion and personal injury. Each department or laboratory storing or using compressed gases and cryogenic liquids shall, as a minimum, comply with all the applicable safety requirements of this guide.

The term Compressed Gas (CG) refers to gases and mixtures of gases stored under pressure in cylinders. CG can be mainly grouped as Liquefied gases (LG), Non-liquefied gases (NLG) or Dissolved Gases (DG). Cylinders containing compressed gas are used every day on campus without incident, but these gas cylinders may easily become a serious hazard if mishandled or stored improperly. A cylinder with broken valve can easily take off like an uncontrolled rocket or a pinwheel, bounding around the room and even breaking brick walls.

Many compressed gases are toxic. They could cause various health problems depending on the specific gas, its concentration, and the length and route of exposure. Contact between the skin and eyes and liquefied gases can freeze tissue and result in a burn-like injury. With the exception of oxygen and air (19.5% O2), possibly the greatest hazard to the user of CG is asphyxiation. All gases are asphyxiates. If suddenly released, especially cryogenics (liquefied gases at very low temperatures, having boiling points below -150°C or -238°F) such as liquid nitrogen can expand up to 700 times and displace all breathing oxygen, presenting a serious asphyxiation hazard. Also, it can create a highly visible fog (due to condensation of moisture in the air), which may obscure the emergency EXIT path.
To ensure safety of life and property, all compressed gases and cryogenic liquids shall be stored, handled and used in accordance with the requirements of the applicable Indiana Fire Code, NFPA 45, and ND Chemical Hygiene Plan (CHP) to minimize the hazards of fire, explosion and personal injury. Each department or laboratory storing or using compressed gases and cryogenic liquids shall, as a minimum, ensure that:

- All employees have **adequate knowledge and training** regarding safety and first aid procedures for gases being used or handled. Employees shall be provided with and encouraged to read and follow the instructions on the warning labels, review applicable Safety Bulletins and Safety Data Sheets (SDS) for specific gases.

- All individuals working on or near CG systems shall wear **eye protection and protective gloves at all times**, particularly when handling cylinders containing cryogenic (super-cold) gases.

- Cylinders not ‘in use’ are not to be stored in the laboratory. A single cylinder secured alongside the cylinder in use as the reserve cylinder is considered ‘in use.’ Flammable compressed gas cylinders (e.g., acetylene, butane, ethylene, hydrogen, methylamine and vinyl chloride) in laboratories are limited to only those in current use. The maximum quantities of compressed gases and cryogenic liquids shall never exceed those specified by the Indiana Fire Code or other applicable Fire Code. When non-compliance is identified during lab safety audit or fire code inspection, RMS shall work with the appropriate Department Manager to resolve the issue.

- **All cylinders (in service or storage, full or empty) are:**
  - Adequately secured with chains or straps positioned around the upper third of the cylinder, or by proper nesting to prevent falling or being knocked over.
  - Protected with valve protective caps in place until the gas is about to be used.
  - Never stored in any portion of an exit or common corridor, elevator car or in space under the stairway. A CGC or a cryogenic container shall not be located such that it could prevent safe egress in the event of accidental release of their contents unless a second means of access to an exit is available from a laboratory work area.
  - Stored away from elevators, staircases, or main traffic (means of egress) areas to avoid dangerous impediments.
  - Promptly moved to their designated storage area once delivered or empty.
  - Removed within one day when placed in the hallways for pickup.
  - Moved with a suitable hand cart, appropriately strapped, and never allowed to be dropped or banged together violently.
  - Kept away from fire, heat, and spark-producing operations.
  - Grouped according to their properties. Do not store flammable gases next to exit or oxygen cylinders.
  - Stored such that flammable gases are separate from oxidizing gases, and empty cylinders are separate from the full cylinders. Note: Oxidizing gases contain oxygen at higher than atmospheric concentrations (above 23-25 %). Common examples are: nitrogen oxides, halogen gases such as chlorine and fluorine.
  - Properly marked with the name and hazard of the contained gas. Don’t accept unidentified cylinders and don’t rely on color codes; read the label.
  - Lecture bottle-sized cylinders shall also be secured properly. Such cylinders with content health hazard 2 without physiological warning properties, health hazard 3 or 4, and...
Each department or laboratory shall ensure that:
- A CG cylinder is never used without a pressure-reducing regulator that safely reduces the cylinder pressure to the required level.
- Only those regulators are used that have both high-pressure gauge and a low-pressure gauge to be able to monitor both the pressure in the cylinder and in the system.
- Regulators shall not be interchanged as some regulators are only for specific gases.
- Never use a pressure gauge above 75% of its maximum face reading. Immediately replace any gauge whose pointer does not go back to its zero point when pressure is removed.
- Cylinder valves are cleaned of any dust or dirt before attaching proper regulators.
- Cylinder valve is closed properly and that the protective cap is replaced before returning the cylinder.
- Adjusting screw is released on regulator before opening cylinder valve.
- An adaptor is never used between a cylinder and a pressure-reducing regulator.
- Excessive force is never used to connect a CGA connection.
- Safety devices in cylinder valves or regulators are never tampered with.
- Any damaged cylinder or valve is immediately reported to RMS and the supplier.
- Materials such as pipe dope or Teflon tape are never used to connect a regulator to a cylinder.
- The users are trained to stand to the side of the regulator when opening cylinder valve and open the cylinder valve slowly.
- The users are instructed never to transfer CGs from one container to another, refilled or sucked back into the cylinder.
- Separate empty and full cylinders during storage. Mark empty cylinders "EMPTY" or "MT". Note that cylinder with a pressure gauge reading of 0 psig (0 kPa) is not really empty. It still contains gas at atmospheric pressure. [Gauge pressure = Total gas pressure inside cylinder - atmospheric pressure (14.7 psi or 101.4 kPa).

Cryogenic liquid (liquefied gases at very low temperatures, having boiling points below -150°C or -238°F) tanks are checked periodically to ensure that they:
- Have not lost vacuum or insulation (a cold outside jacket of the tank indicates the need for tank service).
- Are checked at the neck of the tank opening for any ice accumulation to prevent any blockage and subsequent pressure buildup within the container.
- Are checked for sabotage of the pressure relief devices on the tank.
- The following two safety precautions must be taken with cryogenic gases:
  - Use protective gloves and eye wear when handling cylinders containing cryogenic (super-cold) gases.
  - Where cryogenic gases are vented or released at a rate anything more than a few cubic centimeters of gas per minute inside of an area, adequate 24-hour ventilation is required. Install continuous oxygen monitor(s) with a ‘low oxygen’ alarm in such areas for safety.
**Hazardous Materials and Chemicals**

Hazardous materials and chemicals shall be stored, handled, and used in accordance with the requirements of the Indiana Fire Code and other applicable National Fire Protection Association (NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals) Standards. To ensure uniform compliance university-wide, each laboratory or other areas using hazardous materials such as flammable and combustible liquids, oxidizing materials, radioactive materials, unstable (reactive) chemicals, highly toxic materials and poisonous gases shall, at a minimum, comply with all the applicable safety requirements of this guide.

Extensive use of flammable solvents in laboratories and other areas presents a potentially serious fire and explosion hazard. Even a very small quantity involved in the fire can significantly increase the potential of fire spreading. To ensure uniform compliance, each laboratory or other areas using hazardous materials shall:

- Maintain an up-to-date inventory of hazardous chemicals by types and quantity, as required by the Indiana Fire Code and the University Lab Safety Manual., Indiana Emergency Planning and Community Right to Know Act (EPCRA), Superfund Amendments and Reauthorization Act (SARA Title III), State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC).
- Ensure that chemical inventory is maintained and updated at least annually.
- All chemical containers, which are not in active use, shall be properly capped. If there is a potential for over-pressurization a vented cap shall be used.
- No chemical containers shall be stored on a laboratory floor without proper secondary containment.
- All flammable and combustible liquids containers shall be stored in a cool area, away from sunlight or any sources of heat or ignition, and away from any corrosives or oxidizers.
- Flammable liquids not in active use shall be stored in an approved flammable storage cabinet.
- Storage cabinets used in laboratories shall not be required to be vented for fire protection purposes. Where vented, performance-based requirements of NFPA 30 shall be complied with.
- Flammable Liquids Dispensing and Transferring: Dispensing and transfer of these liquids can present a static electricity hazard depending on their ability to generate static electricity, how well they conduct electricity (conductivity), and their flash point. Thus, the level of hazard depends on factors such as the type of containers, the type of liquids (flash point, vapor pressure) being transferred, working environment (temperature) and the rate of liquid transfer. To ensure safety during such activity, all flammable liquids dispensing and transfer shall comply with the following requirements:
  - Flammable liquids in containers larger than 4 L (1.1 gal) shall not be dispensed by gravity whether the containers are conductive or not. Approved pumps taking suction from the top of the container shall be utilized. Containers with bottom spout are acceptable but not recommended because of an increased risk of spill caused by damaged spout.
o Any transfer of flammable liquid between conductive containers larger than 4 L (1.1 gal) shall be bonded and grounded. Note: Transferring flammable liquids from 4 L (1.1 gal) glass containers to any metal containers is relatively hazardous and such a practice is not considered prudent. Therefore, this shall be avoided.

- Transfer of flammable liquids is not permitted in any exit access corridor.
- Transfer of flammable liquids to smaller containers from bulk stock containers not exceeding 19 L (5 gal) shall be performed only in a lab hood or an approved inside area, and in an adequately ventilated area that must not allow the accumulations of flammable vapor/air mixtures to exceed 25% of the lower flammable limit.
- Where practicable, dispensing operations shall be separated from the storage area because of the exposure of greater quantities to the hazards of dispensing operations.
- Any transfer of more than 19 L (5 gal) of flammable liquids is not allowed inside the building except in an area specifically designed and protected for dispensing such liquids.
- Consult RMS for any activity that you think may not comply with these requirements to determine appropriate strategy to control fire hazard.
- Collect hazardous waste in appropriate containers per the Hazardous Waste Procedure. Once a container is full, submit a Chemical Discard Tag to schedule a pickup.

♦ Flammable and combustible liquids quantities in laboratories shall be limited in accordance with the RMS Laboratory Flammable/Combustible Liquid & Compressed Gas Handling/Storage Procedure.

♦ Ensure that radioactive materials are stored, handled and used only by the trained authorized users to keep exposure As Low as Reasonably Achievable (ALARA) and to minimize the property damage by radioactive materials resulting from fires and explosions. The users of such materials shall also comply with the requirements of the University’s radiation safety policies and procedures.

**Construction, Renovation, and Demolition**

Fires during construction, renovation, or demolition operations are an ever-present threat. Inherently, greater fire potential exists on these sites due to the presence of large quantities of combustible materials and debris, together with ignition sources such as temporary heating devices, hot work operations, open fires and smoking by construction workers. Life safety of the occupants during these projects is of great concern. Change in an exit route or restricted exit, storage of materials in the corridors, restricted access to the emergency response equipment are some of the important things to look for during these projects. If you notice any unsafe condition, report it promptly to the Notre Dame Dispatch Center.
Housing Policies for Undergraduate Residential Communities

The University believes its residential facilities provide the foundation of community life. To maintain the proper safety and security of these communities, residents and guests must abide by certain housing policies and expectations. The following includes some of the University’s housing policies. Students are expected to know and abide by these policies. Failure to follow the directives of residence hall staff, Office of Residential Life staff, or campus safety personnel may result in a referral to the University Conduct Process.

Appliances

To meet fire, health and safety requirements, the University must discourage the proliferation of electrical appliances in student rooms. All large, domestic type refrigerators are prohibited. Refrigerators in student rooms shall not exceed 5.0 cubic feet in size and must be in good operating condition. Students are not permitted to use high-wattage appliances (e.g. air conditioners, broilers, rotisseries, ceiling fans, skillets, rice cookers, dimmer switches, hot plates, microwaves, tabletop grills, toaster ovens, bread makers) other than those provided by the University in residence hall kitchens and common spaces. Personally-owned grills are not permitted to be stored in or used near residence halls. Electric kettles which have received a UL certificate are permitted. Only power strips with surge protectors are permitted; not unfused multi-plug adapters.

Health and Safety Issues

All students share responsibility for the health and safety conditions of their hall. To keep halls safe, students must keep the following facts in mind:

- Know the fire exit routes from the residence hall.
- Burned-out light bulbs in corridors will be replaced by Maintenance technicians. Students shall not replace any light bulb with brighter or colored bulbs. Oversized bulbs can overload the circuits and create a fire hazard.
- Installation and/or the use of ceiling fans, air conditioners, waterbeds, and/or electrical or kerosene space heaters are not permitted.
- Propane grills or any other type of liquid gas tanks shall not be stored in residence halls.
- The following are prohibited as interior finish to any residence hall room:
  - The installation of plywood paneling, plywood sheets, decorative wood shingles, particleboard, hardboard, wallpaper, paperboards, and any other flame and smoke propagating materials.
Combustible fabrics, burlap, paper, cork, and other flame and smoke-propagating materials. Combustible materials shall not be placed against or left in contact with radiators, heating units, light bulbs or lighting fixtures, or any other electrical items. Halogen torchiere lamps that have a tubular halogen bulb greater than 300 watts are prohibited. All halogen lamps must have a properly installed safety guard. Individuals owning these lamps must be able to prove the bulb wattage is 300 watts or less, replace all bulbs without wattage ratings and obtain and properly install the wire safety guard. Lamps shall never be placed near curtains, bedding, posters, or pictures. Clothing, towels, etc., shall not be draped over lamps. Carpeting is not permitted on walls or ceilings. Ceilings shall not be draped with any fabric, netting, or paper products. Partitions shall not be constructed in any residence hall suites or rooms. Storage is not permitted in corridors or stairwells. Bunk beds, as provided by the University, are always permissible. No more than two beds in any bunk structure are permitted. Extension beyond normal height of bunk structure is not permitted. A single bed spring raised on double end pieces is not permitted. Beds must be debunked and returned to floor level when residents move out of the hall. Platforms or structures at any level constituting additional floor surfaces are prohibited. Bed structures may not render windows unusable for emergency access or for air circulation. Bed structures may not block access to heating or ventilating units, plumbing, lighting fixtures and thermostats. Automatic sprinkler heads will be kept clear of all obstruction. In multi-room suites, the corridor door in the center room shall be maintained for easy exit. The center room corridor door must be maintained to open at least 90 degrees. No bed structure or other furniture will block use of the connecting room doors so there is a clear passage or direct access to the center room for exiting. All corridors in every room (including suites) shall be maintained for easy exit. Fire safety equipment may not be tampered or interfered with for any reason.

**Housing Safety Guidelines for Decorations**

For reasons of hall safety and security:

- All decorations must be non-combustible or factory-treated with flame retardant. No paper of any type may be used to line the exit corridors and stairs.
- Smoke detectors, heat detectors or sprinkler heads cannot be covered or removed at any time. Nothing can be attached to these devices.
- No decorations can be put on the floors that may be a trip hazard in an emergency or otherwise.
- Hose cabinets, fire extinguishers, cabinets, and fire alarm stations may not be covered with any decorative materials.
- Residence hall room doors may be decorated (not knobs, just the door surface), but no part of an exit or emergency lighting may be covered.
♦ Only artificial, flame retardant wreaths and trees may be used in residence halls. Natural evergreen branches or trees are not permitted inside residence halls.
♦ Only low voltage, indoor rated incandescent or LED lighting is permitted and no outdoor displays or animated/mechanized decorations are allowed inside of a building.
♦ Open flames, including all types of candles and incense, are prohibited.
♦ Nothing may impede or hinder occupants’ access to exits, including obstructing the view of an exit sign or exit doorway. This also means windows cannot be blocked with decorations, either inside or outside of the window.
♦ No modification of the building electrical system is permitted. Extension cord use must be kept to a minimum, and electrical cords cannot run through doorways, windows, or fire doors.
♦ Colored lights may not be installed in corridor lighting fixtures.

**Housing Safety Violations**

Residence hall staff and the Office of Residential Life shall determine whether any structures or room arrangements are in violation of all relevant regulations. Corrections must be made within the time set by the Rector (usually 24 hours). Elevated bed structures or room arrangements not corrected within the designated time or which may be discovered at any time after the beginning of the year (semester) shall be removed immediately.

**Policies for Non-Residential Facilities**

**Decorations: Holidays, Candles and Open Flames**

To prevent fires related to decorations and lighting during holidays or special events and to ensure compliance with Indiana Fire Code requirements, each building manager shall ensure compliance with the following specific fire prevention and safety requirements. All University students, staff, and faculty shall comply with the following requirements.

**Holiday Trees, Wreaths and Decorations**

♦ Decorations and lighting must not be placed such that they may obscure emergency exit paths or signs.
  o All decorative materials shall either be non-combustible or flame resistant, or treated with an approved fire retardant in accordance with manufacturer's specifications and NFPA 701 Testing criteria.
♦ Look for ‘non-combustible’ or ‘flame resistant’ labels on the decoration packages. If the decorations are to be re-used, retain the original package while in use.
♦ Live trees, natural wreaths, and other live greens are not permitted indoors.
♦ Use only flame-retardant artificial trees and decorations in appropriate locations (flame retardant information can be found on the packaging).
o Trees or decorations must not block or obstruct exits, aisles, corridors, vision panels on the hallway doors, stairwells, fire extinguishers, fire alarm pull boxes, exit signage, evacuation floor plans and other emergency equipment/information.

♦ No trees or wreaths of any kind are permitted in laboratories. However, a wreath on the exterior of a laboratory door is permissible.

♦ Place all decorations and combustibles at least 3 feet away from sources of heat, e.g., radiators, lights.

♦ All decorations with powered electricity must be turned off when unattended or before leaving the area for the day.

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**Holiday Lighting**

♦ Carefully inspect new and previously used electrical light strings and replace damaged items before plugging lights in.

♦ All holiday lighting and electrical decorations shall be ‘UL’ (Underwriters Laboratories) listed and shall be plugged directly into wall-mounted outlets or ‘UL’ listed power-strips (Look for a ‘UL’ symbol on the equipment). Follow manufacturer’s instructions for installation and maintenance.

♦ Extension cords shall not be used for holiday lighting. Instead, use ‘UL’ listed outlet power-strips with built-in fuse or circuit breaker protection.

♦ Electrical wires and extension cords shall not extend through windows or doors or under carpeting.

♦ Lighted candles or lanterns usage shall only be permitted in approved facilities (e.g. chapels) or for specifically approved religious practices.

♦ Electrical light bulbs shall not be decorated with paper or other combustible materials.

♦ All lighting must be turned off when unattended or before leaving the area for the day.

**Removal of Decorations**

♦ All decorations and lightings shall be removed promptly upon the completion of an event or within seven calendar days after the end of the holiday period.
Life Safety Measures for Departmental Holiday Events

♦ Avoid the use of emergency means of egress access EXIT corridors for seating and tables. If these spaces must be used, NDFD and RMS must be consulted prior to event setup to ensure life safety of the occupants.

Candles, Incense, Open Flames

♦ Candles, incense, and other objects which produce open flames or burning (outside of approved kitchens, laboratories, or religious facilities) are prohibited in all ND facilities.

Door Wedges and Other Hold-Open Devices

University buildings are equipped with fire rated doors and smoke-barrier doors. These doors prevent smoke and heat from traveling up stairwells and along corridors. NDFD and the Lock Shop maintain these doors, including all hardware, in good working condition.

A seemingly harmless door wedge used to hold open a fire door represents a serious fire/life safety hazard and fire code violation. Moreover, the inappropriate use of door wedges can cause damage to doors, resulting in significant expenditures for repair. Therefore, the use of doorstops, wedges, and other hold-open devices, which are not permitted by the fire code, is prohibited in all University buildings.

Never prop open fire doors. Fire doors are to remain closed. If your operational needs call for a fire-rated or smoke-barrier door to remain open, NDFD for appropriate resolution.

All fire-rated or smoke-barrier doors that are approved to remain open during normal operation are equipped with electrically powered magnets, which hold them in open position and release (close) automatically during a fire alarm. Never block these fire-rated smoke-barrier doors from closing.

Magnetically Locked Exit Doors

Numerous University buildings are equipped with EXIT doors that are electronically locked for security reasons. This type of lock allows people to exit the building safely during fire alarm emergencies. Check that all magnetically locked exit doors in your area automatically release (open) during an alarm to allow for your safe egress.
Electrical Safety

All departments, including laboratories, shall comply with the University's electrical safety program to minimize the hazards of fire due to improper use of electricity and electrical equipment. These procedures include restrictions on the use of portable electrical space heating devices, extension cords, cooking appliances utilizing gas, electric or Sterno heat, toasters, toaster ovens, hot plates, electric fry pans, woks and crock-pots. Staff observing any hazardous electrical conditions shall promptly report them to their supervisors or other appropriate department(s) for corrective action.

To protect building occupants and property from the direct (electric shock injury) and indirect hazards (heat, fire and explosion) of electricity, each department shall comply with the following electrical safety procedures.

♦ Use equipment in accordance with the manufacturer's recommendations. Never bypass electrical interlocks. Calibrate heating equipment regularly as required.

♦ Post procedures for critical equipment including "on-off procedures" and warning signs on or near the equipment. Clearly identify the equipment to be left "ON" when the laboratory is unoccupied, by posting an Unattended Operations card on the lab door.

♦ All defective/damaged wiring (e.g. frayed, cut wires, broken/defective plug or switch) or equipment shall be promptly reported to the Building Manager or Maintenance team.

♦ To prevent fires due to electrical overload on fixtures and wiring, DO NOT USE:
  o Extension cords and flexible cords as a substitute for permanent wiring. Do not extend cords through windows or doors or under carpeting.
  o Multiple outlet strips (piggy-back). Use strips with built-in fuse or circuit breaker protection and 'UL' (Underwriter's Laboratory) listed for the use.
  o Cube taps for multiple connections from a single outlet. These types of devises are not permitted within the University.
  o Multiple plugs in interconnection. In other words, never connect additional plug or plugs into the main plug that is inserted in the outlet or a power strip to connect multiple devices.

♦ Secure all wiring, cords, cables, and conduits. Keep them away from general traffic areas to prevent falls/trips.

♦ Allow appropriate clear spaces between electrical equipment and storage of flammable combustible materials. A minimum clearance of 36 inches shall be maintained between electrical service equipment and any other storage to allow easy access for emergency use. Never drape combustibles (e.g., cloth, paper) over equipment.

♦ Dedicated circuits and proper grounding may be required for equipment such as refrigerators, freezers, dehumidifiers and air conditioners. Do not use extension cords or power strips with this equipment. Consult with Utilities & Maintenance to check for the adequacy of electrical power or circuits prior to the purchase, installation or relocation of such equipment.

♦ Cooking related appliances utilizing gas, electric or Sterno heat, toasters, toaster ovens, hot plates, electric fry pans, woks and crock-pots are not permitted to be used inside of any University building unless such use is necessary for conducting University business.
Portable electrical space heating devices are generally not permitted in any University building. Review specific restrictions and guidelines provided under a separate title “Space Heaters” in this guide.

- If electrical work is required in any area, it shall be submitted to Utilities & Maintenance for review and/or cost estimate and approval.
- Promptly report any unsafe hazardous electrical conditions to your department supervisor, Utilities & Maintenance, or RMS.

**Life Safety Inspections**

Workplace life safety conditions are evaluated on a regular basis to assure compliance with applicable Fire and Life Safety Codes. ND facilities are regularly inspected by members of the Campus Safety Division. Fire code requires that all fire and life safety systems, including fire detection and alarm, sprinklers, fire hydrants, fire pumps and others be inspected, maintained, and tested regularly. While these features are inspected by the professionals, routine walk-through inspections by building occupants is also of extreme importance. For instance, temporarily stored material in the means of egress EXIT corridors may become permanent creating a life safety hazard, if not immediately addressed. Therefore, every individual should know and check his/her areas and activities for fire safety. Always contact NDFD or RMS for assistance or appropriate corrective measures.

**Hazardous Materials and Chemicals**

Hazardous materials and chemicals shall be stored, handled, and used in accordance with the requirements of the Indiana Fire Code and other applicable National Fire Protection Association (NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals) Standards. To ensure uniform compliance University-wide, each laboratory or other areas using hazardous materials such as flammable and combustible liquids, oxidizing materials, radioactive materials, unstable (reactive) chemicals, highly toxic materials and poisonous gases shall, at a minimum, comply with all the applicable safety requirements of this guide.

Extensive use of flammable solvents in laboratories and other areas presents a potentially serious fire and explosion hazard. Even a very small quantity involved in the fire can significantly increase the potential of fire spreading. To ensure uniform compliance university-wide, each laboratory or other areas using hazardous materials shall:

- Maintain an up-to-date inventory of hazardous chemicals by types and quantity, as required by the Indiana Fire Code and the University Lab Safety Manual., Indiana Emergency Planning and Community Right to Know Act (EPCRA), Superfund Amendments and Reauthorization Act (SARA Title III), State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC).
♦ Ensure that chemical inventory is maintained and updated at least annually.

♦ All chemical containers, which are not in active use, shall be properly capped. If there is a potential for over-pressurization a vented cap shall be used.

♦ No chemical containers shall be stored on a laboratory floor without proper secondary containment.

♦ All flammable and combustible liquids containers shall be stored in a cool area, away from sunlight or any sources of heat or ignition, and away from any corrosives or oxidizers.

♦ Flammable liquids not in active use shall be stored in an approved flammable storage cabinet.

♦ Storage cabinets used in laboratories shall not be required to be vented for fire protection purposes. Where vented, performance-based requirements of NFPA 30 shall be complied with.

♦ Flammable Liquids Dispensing and Transferring: Dispensing and transfer of these liquids can present a static electricity hazard depending on their ability to generate static electricity, how well they conduct electricity (conductivity), and their flash point. Thus, the level of hazard depends on factors such as the type of containers, the type of liquids (flash point, vapor pressure) being transferred, working environment (temperature) and the rate of liquid transfer. To ensure safety during such activity, all flammable liquids dispensing and transfer shall comply with the following requirements:
  o Flammable liquids in containers larger than 4 L (1.1 gal) shall not be dispensed by gravity whether the containers are conductive or not. Approved pumps taking suction from the top of the container shall be utilized. Containers with bottom spout are acceptable but not recommended because of an increased risk of spill caused by damaged spout.
  o Any transfer of flammable liquid between conductive containers larger than 4 L (1.1 gal) shall be bonded and grounded. Note: Transferring flammable liquids from 4 L (1.1 gal) glass containers to any metal containers is relatively hazardous and such a practice is not considered prudent. Therefore, this shall be avoided.
  o Transfer of flammable liquids is not permitted in any exit access corridor.
  o Transfer of flammable liquids to smaller containers from bulk stock containers not exceeding 19 L (5 gal) shall be performed only in a lab hood or an approved inside area, and in an adequately ventilated area that must not allow the accumulations of flammable vapor/air mixtures to exceed 25% of the lower flammable limit.
  o Where practicable, dispensing operations shall be separated from the storage area because of the exposure of greater quantities to the hazards of dispensing operations.
  o Any transfer of more than 19 L (5 gal) of flammable liquids is not allowed inside the building except in an area specifically designed and protected for dispensing such liquids.
  o Consult RMS for any activity that you think may not comply with these requirements to determine appropriate strategy to control fire hazard.
  o Collect hazardous waste in appropriate containers per the Hazardous Waste Procedure. Once a container is full, submit a Chemical Discard Tag to schedule a pickup.

♦ Flammable and combustible liquid quantities in laboratories shall be limited in accordance with the RMS Laboratory Flammable/Combustible Liquid & Compressed Gas Handling/Storage Procedure.

♦ Ensure that radioactive materials are stored, handled and used only by the trained authorized users to keep exposure As Low as Reasonably Achievable (ALARA) and to minimize the property
damage by radioactive materials resulting from fires and explosions. The users of such materials shall also comply with the requirements of the University's radiation safety policies and procedures.

**Lecture Halls and Places of Assembly**

Lecture halls, multi-purpose rooms, and places of assembly pose possible safety concerns due to the large number of people in these areas. In case of fire, people must be able to evacuate these areas safely and in a reasonable time frame.

In all cases, the Maximum Occupancy Load for all Places of Assembly must be adhered to **WITHOUT EXCEPTION**. To ensure the ability to safely evacuate places of assembly in a timely manner, ALL changes in furniture “set ups” must be pre-planned and approved by the University. Requests shall be submitted to the building manager for consideration. Exceeding the occupancy load by one (1) person is cause for the function to be suspended until the legal occupancy load is achieved.

**Space Heaters**

The use of portable space heaters is discouraged. Portable electrical space heaters can pose a major workplace fire safety hazard. Use of unapproved or unsafe space heaters – or use of space heaters in an inappropriate or unsafe manner - presents a significant fire risk. If you have an issue with the temperature of your office/workspace, notify Utilities. They will evaluate your area to determine if adjustments are needed. If authorized for use, space heaters shall adhere to the following:

**Safety Criteria for Space Heaters:**

All electrical space heaters must meet the following criteria:

1. The equipment is UL (Underwriter Laboratories) approved for the use for which it is designed.
2. The equipment has a sealed element, and does not produce any flames, fumes, or use any fuel.
3. The equipment is equipped to turn off automatically when tilted or turned over.
4. The heating elements cannot exceed 100 degrees Centigrade or 212 degrees Fahrenheit.
5. Oil-filled electrical space heaters are recommended over any other types of heaters because they have the best safety record.

The use of space heaters is **strictly prohibited** in all University laboratories and residential areas.

**Operational Safety Precautions for Space Heaters:** Students, staff, and faculty or visitors shall comply with the following operational safety precautions:

1. Maintain a minimum clearance of three feet (or one meter) at all times between stored materials and the heating device.
2. Never leave the heating unit “ON” when unattended.
3. Plug the heating unit directly into an outlet with sufficient capacity.
4. Never use an extension cord or power strip with heater because it may overheat and cause a risk of fire.
5. Check the heating unit before each use to make sure that all indicator lights are working. Remove the defective unit from service immediately.

6. Ensure that the power cord is properly plugged in and is not damaged, or crushed by objects, or covered under carpet or rug.

7. Contact NDFD for any space heater related questions.

**Special Events: Exhibitions, Vendor Fairs, Parties, Carnivals, Picnics**

To prevent fires during indoor and outdoor public events such as exhibitions, vendor fairs, parties, carnivals, picnics, etc. and to ensure compliance with the State of Indiana Fire Code requirements, each department/unit administrator or building coordinator shall comply with the following fire prevention and safety requirements for on-campus indoor and outdoor public events. Compliance with all applicable fire safety requirements for decorations and lightings and electrical safety procedures outlined in this guide is required.

**Requirements for Indoor Events:**

- ♦ Use or storage of propane cylinders and propane or charcoal grills is PROHIBITED.
  - o Implement these fire and life safety measures as a minimum for all indoor events:
    - Maintain clear isle width and keep all means of egress emergency EXITS corridors accessible at all times. Avoid the use of means of egress emergency EXIT corridors for seating and tables.
    - Observe maximum occupancy limits for a specific area.
    - Maintain good housekeeping and areas free of clutter.
    - Comply with all applicable fire safety requirements for decorations and lightings outlined in this guide.
  - IN CASE OF A FIRE, call 9-1-1 (from a campus phone) or 631-5555 (cell phone). Do not attempt to extinguish a large or spreading fire.

- ♦ **Cooking appliances** utilizing gas, electric or Sterno heat, toasters, toaster ovens, hot plates, electric fry pans, woks and crock-pots are not permitted to be used inside of any University building unless such use is necessary for conducting University business.
  - o In facilities where the use of **Sterno heat** is permitted, compliance with the following requirements is mandatory:
    - When in use, Sternos must be attended to at all times.
    - Keep all combustible materials, such as napkins and paper plates, at a safe distance to avoid overheating or fire.
    - Appropriate metal or ceramic trays shall be used under the Sternos cans to prevent accidental contact with any combustible material.
    - The person preparing the flaming foods shall have a wet cloth towel immediately available for use in smothering the flames in the event of an emergency.
    - Identify the location of the nearest ABC type fire extinguisher (should be readily available and located within a 75 feet distance to extinguish small fires).
    - Report all fires immediately by calling 9-1-1 (campus phone) or 631-5555 (cell phone).
Requirements for Outdoor Events:

- IN CASE OF A FIRE, follow the campus emergency procedure. Do not attempt to extinguish a large or spreading fire.
- Use of barbecue grills and other propane cooking equipment is PROHIBITED on balconies or any other portion of a building unless pre-approved by NDFD. All such equipment shall be used at least 15 feet away from any building.
- Do not store any spare propane gas cylinder in any part of the building.
- Charcoal Grills are only permitted in pre-approved locations and/or events in consultation with NDFD.
- Keep all combustible materials away from grills to avoid any fire.

Bonfires and open burning:

All bonfires shall be approved by NDFD. No other type of open burning is permitted unless authorized by NDFD.

Fireworks, Explosives and Pyrotechnics

The storage, handling, exhibition and use of fireworks, explosives materials and pyro require approval by the Division of Campus Safety and University Operations.

Storage Safety

Storage of materials, equipment, and furniture in means of egress corridors and stairwells used for an emergency exit can present an impediment and fall and trip hazards to both building occupants and responding fire fighters. Storage in corridors may also block installed emergency equipment such as fire extinguishers, safety showers and fire hose connections. Inappropriate storage height in sprinklered areas can hinder effective firefighting. To avoid these problems, the following shall be complied with regard to storage:

Storage in Egress Corridors

Means of egress corridors leading to EXITS or any other similar elements of the means of egress access shall be maintained in a safe condition, available for immediate utilization and free of all obstructions at ALL times. Obstructions such as tables, display cases, holiday decorations, powered equipment, display boards, signs, coat racks and other movable equipment that may interfere with fire-fighting access are prohibited. Storage of combustible, flammable or other hazardous materials, including compressed gas cylinders and cryogenic liquid tanks in any portion of an exit, elevator car or under the stairway is prohibited. Chairs, tables, and other furniture or equipment in each room must be arranged to provide ready access to each egress door.
Safe Ceiling Clearance for Storage

To allow for effective firefighting, the individual departments shall ensure that an 18” ceiling clearance is always maintained when storing materials on shelves. Any storage flush with the room walls is exempt if such storage does not present other safety hazards (e.g. storage that is unstable or very close to an electrical fixture). All new furniture or equipment, including storage racks/shelves, shall allow a minimum of 18” clear distance between the ceiling and the top surface.
FORMS AND PROCEDURES
## FIRE DRILL RECORD

<table>
<thead>
<tr>
<th>Building Name</th>
<th>Date</th>
<th>Drill Time</th>
<th>Weather Conditions</th>
<th># of Evacuees</th>
<th>How Initiated</th>
<th>Conditions Simulated</th>
<th>Evacuation Time</th>
<th>Issues</th>
<th>Name of Drill Instructor</th>
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Revision Date:

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MOST COMMON FIRE CODE VIOLATIONS

Blocked Exit

Blocked Exit & storage

Unsafe compressed gas storage

Poor housekeeping
Wall penetration with no firestop

Exit sign inoperable or broken

Combustibles

Open electrical panel
Door wedge

Using door chock to hold open a fire door

Liquid Propane Cylinders (LPG) stored inside building

Fire extinguishers not mounted and missing annual inspection tag
FIRE SAFETY RESOURCES

While you can always call NDFD for assistance in fire safety matters, valuable fire and life safety fact sheets are available on the internet. NDFD recommends that you use the information available from the following two sources:

   a. Or their Public education resources.
2. The U. S. Fire Administration’s website.

Fact sheets on the NFPA website include:

- **Home escape planning:** Learn the steps to create a home fire escape plan - and putting it into practice.
- **Safety in the home:** Candles, cooking, escape planning, heating, smoking, CO poisoning, and more
- **Safety in other occupancies:** High-rises, hotels/motels, nightclubs, nursing homes, campus and dormitories, and more
- **Prepare for an emergency:** Your family need to be prepared because you won't have time to shop or search for supplies when a disaster strikes
- **For people with disabilities:** Ensure that people with disabilities are included in safety planning.
- **Top causes of fire:** Cooking equipment is the leading cause of home structure fires and home fire injuries. Smoking is the leading cause of civilian home fire deaths.
- **Electrical safety:** Safety in the home and with circuit interrupters
- **Fire protection equipment:** Automatic sprinkler systems, fire extinguishers, smoke alarms
- **Homeland Security:** Free access to NFPA 1600 and other information and resources
- **Seasonal safety:** Fireworks, Christmas trees, grilling, Halloween safety, winter and summer safety
- **Vehicles/gas/fuel safety:** Gasoline at home, propane, service station safety, and more

Related Topics on the U.S. Fire Administration’s website include the following topics:

- **Candle Fire Safety**
- **Electrical Fire Safety**
- **Heating Fire Safety**
- **Carbon Monoxide Poisoning/Portable Generator Hazards**