

UNIVERSITY POLICIES & PROCEDURES

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BACKGROUND:

I. PURPOSE

To describe how fire safety and suppression is accomplished at Minnesota State University, Mankato.

The potential for loss of life or injury from a fire-related incident can be a serious risk on campus. In addition, few occurrences on campus represent a greater potential for property loss than a serious fire or explosion. Fire safety is an important area of concern for every building on campus. The program should take a proactive approach to recognize and evaluate fire safety risks and institute appropriate steps to remove or reduce them.

An effective fire safety program requires sufficient resources to attain code compliance, education of the campus community in fire safety practices, and enforcement to correct fire safety violations. Beyond basic life safety code compliance, fire safety should be a primary component in the design and construction of new or renovated campus buildings. Equally important are the inspection, testing and maintenance of alarm systems, sprinkler systems, emergency signs and lighting, inspection of smoke detectors, and maintenance of fire suppression equipment. Fire risk analyses coupled with fire prevention programs are additional key components of a comprehensive fire safety program.

This plan is designed to provide guidelines for identifying, monitoring, and addressing fire safety issues at Minnesota State University, Mankato. The manual describes emergency procedures, fire safety equipment, drills, inspections, training, and procedures that will reduce the possibility of fires. This section of the Manual is evaluated and revised annually by the Environmental Health and Safety Office.

The rules, regulations, and recommendations in this manual are in conformity with current local, state, and national codes established by the legislature of the State of Minnesota.

II. ORGANIZATION: FIRE SAFETY AND PROTECTION PLAN

The Minnesota State University, Mankato Fire Safety And Protection Plan is divided into two major parts, a basic plan and appendixes along with supporting standard operating guidelines.

A. Basic Plan

The basic plan focuses on the assignment of fire safety and protection responsibilities and general operating guidelines. It is directed primarily at parties responsible for overall fire safety and protection responsibility, such as the Chancellor and College or University and College Presidents.

Purpose.

This is a statement of official policy for the reporting of fire emergencies and for the evacuation of campus buildings during fire emergencies, in compliance with local, state, and federal regulations.

POLICY:

A fire emergency exists whenever:

1. A building fire evacuation alarm is sounding;
2. An uncontrolled fire or imminent fire hazard occurs in any building or area of the campus;
3. There is the presence of smoke, or the odor of burning;
4. There is spontaneous or abnormal heating of any material, an uncontrolled release of combustible or toxic gas or other material, or a flammable liquid spill.

PROCEDURES:

Campus buildings shall be immediately and totally evacuated whenever the building evacuation alarm is sounding.

1. Upon discovery of evidence that a fire emergency exists, an individual shall accomplish, or cause to be accomplished, the following actions:
 - a. SOUND AN ALARM. Activate the building fire alarm in buildings equipped with a manual fire alarm system. Shout a warning and knock on doors as you evacuate in buildings not equipped with a fire alarm.
 - b. SHUT OFF ALL MACHINERY AND EQUIPMENT IN YOUR AREA.
 - c. RETRIEVE PERSONAL ITEMS IF POSSIBLE SUCH AS CAR KEYS, PURSE, ETC.
 - d. LEAVE THE BUILDING AT ONCE.
 - e. CALL THE FIRE DEPARTMENT FROM A SAFE PLACE.
 - i. On-Campus phones DIAL - 2111
 - ii. Off-Campus phones and campus pay phones DIAL 9-9-1-1
 - iii. Use Campus emergency phones;
 - iv. Outdoors - Code Blue Phones with red "EMERGENCY" markings, under blue lights can be used to call in fires.
 1. When security or the emergency operator answers tell them that you need the fire department, give as much specific information as possible. State that you are calling from **Minnesota State University, Mankato** and include the proper name of the building and room number, floor, or other specific area. Do not hang up until released by the dispatcher. A PHONE CALL MUST BE MADE! ALL BUILDING FIRE ALARMS DO NOT NOTIFY THE FIRE DEPARTMENT DIRECTLY THEY ARE MONITORED BY A CENTRAL MONITORING STATION.
 - f. MEET THE FIRE DEPARTMENT AND CAMPUS SECURITY OUTSIDE AND DIRECT THEM TO THE EMERGENCY.
 - g. ALL FIRES, EVEN IF EXTINGUISHED OR FOUND EXTINGUISHED, MUST BE REPORTED TO SECURITY.
 - h. ALL FIRE ALARMS, EVEN IF SUSPECTED TO BE FALSE OR ACCIDENTAL, MUST BE REPORTED TO SECURITY/FIRE DEPARTMENT.
2. The evacuation procedures shall be as follows:

- a. It shall be the responsibility of every person to immediately leave campus buildings whenever the fire alarm is activated or a fire emergency exists. All students, faculty, and staff are required to leave the building and remain outside until the emergency is over. No one shall restrict or impede the evacuation.
 - b. Department heads are expected to review annually fire prevention and fire survival information with faculty and staff, or to schedule such a presentation with the Environmental Safety and Health Department.
3. Whenever it is brought to the attention of the staff of residential buildings, or departmental personnel, that the fire alarm or sprinkler system is inoperable or has been placed out of service, a firewatch shall be established.
- a. Responsible personnel (residential staff, safety committee, etc.) shall be assigned to the firewatch.
 - b. The entire building shall be toured at least one time during each hour of the firewatch.
 - c. The Security Department at 2111 shall be notified each hour that the watch has been performed.
 - d. The firewatch shall be maintained at all times that the building is occupied until the fire protection system is repaired.
4. Interruption of a Fire Alarm:
- a. No person may shut off any fire protection or alarm system during a fire emergency incident without the permission of the fire department officer in charge.
 - b. No person may shut off any fire protection or alarm system during a bomb threat emergency without the permission of the police officer in charge.
 - c. It shall be the responsibility of the Physical Plant personnel to reset or cause to be repaired, any fire protection or alarm system after an emergency incident when notified by the fire department in charge. The Physical Plant personnel shall inspect each system immediately after every emergency incident and place the system in serviceable condition.
 - d. The fire departments may reset an alarm system only if there is no damage to the system and when it is within their technical capabilities to do so.
 - e. Any person desiring to interrupt service to any fire protection or alarm system must obtain permission from the Physical Plant Office and notify Security and the Physical Plant Office prior to work being conducted. The Physical Plant Office can be reached at 2071 and Security Office can be reached at 2111. Security shall notify the fire departments and central monitoring station of every such interruption.
 - f. Fire department must request the Physical Plant to repair or rest a fire protection system, via the Security Office at 2111.
5. Information Release to Media and the Public:

All information regarding fires will be released through the President in cooperation with the Media Relations Office. No other agency or employee may release official statements regarding the cause, origin, or nature of campus fires.

Appendices

The appendices elaborate on the fire safety and protection assignments made in the basic plan. Appendices that apply to your college shall be part of your college plan. A synopsis of appendix contents follows:

Appendix D00: DEFINITIONS

Appendix D01: FIRE SAFETY INSPECTION CHECKLIST ITEMS
 Appendix D02: FIRE DETECTION AND WARNING EQUIPMENT
 Appendix D03: SMOKE DETECTORS
 Appendix D04: HEAT DETECTORS
 Appendix D05: FIRE SUPPRESSION EQUIPMENT
 Appendix D06: PORTABLE FIRE EXTINGUISHERS
 Appendix D07: FOOD SERVICES FIRE PROTECTION SYSTEMS
 Appendix D08: STANDPIPES
 Appendix D09: AUTOMATIC SPRINKLER SYSTEMS
 Appendix D11: FIRE SAFETY INSPECTIONS
 Appendix D11: FIRE HAZARDS IN CAMPUS BUILDINGS
 Appendix D12: FLAMMABLE LIQUIDS
 Appendix D13: FLAMMABLE GAS CYLINDERS
 Appendix D14: Left For Future Use
 Appendix D15: HOT WORK OPERATIONS
 Appendix D16: FIRE DRILLS AND EVACUATIONS
 Appendix D17: LOCAL FIRE DEPARTMENT ACCESS
 Appendix D18: SAFE REFUGE DURING AN EMERGENCY FOR INDIVIDUALS WITH DISABILITIES
 Appendix D19: LIVE FIRE OR OPEN FLAMES TRAINING
 Appendix D20: EXIT, STAIRWELL, HALLWAY, CORRIDOR FIRE SAFETY GUIDELINES
 Appendix D21: GUIDELINES FOR THE USE OF TENTS
 Appendix D22: FIRE WATCH PROCEDURES FOR FACILITIES
 Appendix D23: FIRE SAFETY REGULATIONS FOR INDOOR DISPLAY OF EVERGREEN TREES
 Appendix D24: BONFIRES
 Appendix D25: Left For Future Use
 Appendix D26: Left For Future Use
 Appendix D27: Left For Future Use
 Appendix D28: Left For Future Use

III. LEGAL BASIS AND BACKGROUND OF THE PLAN

The Board of Trustees and Systems Office of the Minnesota State Colleges and Universities System have a fiduciary responsibility of 64 college campuses and have set a goal to “create and sustain a system that excels in providing higher education for Minnesota’s future”. Assistance in meeting that goal is provided by Minnesota State Colleges and Universities Board Policy, Chapter 5, Part 2. It identifies the responsibility of “effectively managing risks in order to conserve and manage the assets of the system office, colleges and universities and minimize the adverse impacts of risks or losses”.

One of the major risks that Minnesota State University, Mankato must consider is the devastating impact of fire. Ignoring fire safety issues may negatively impact staff and student confidence, result in destroyed facilities and devastate budgets. In order to adequately address the fire safety requirements of Minnesota State University, Mankato will attempt to categorize the fire safety issues so that a standard for each may be developed.

This project will draw information from the standards and rules that Minnesota Department of Labor and Industry (MNOSHA) enforces the Federal Occupational Standards and Health Administration rules, with additional information coming from the National Fire Protection Agency (NFPA) standards and other college fire safety programs.

- A. Fire safety and suppression at Minnesota State University, Mankato will be accomplished by partnering with the Mankato Fire Department. This will ensure code compliance and knowledge of our campus which will assist in quick and efficient response to a fire emergency.

B. These Mankato Fire Departments will have other responsibilities in the event of a disaster such as:

1. Extinguishing fires
2. Assisting with warning and notification.
3. Assisting with evacuation.
4. Coordinating search and rescue operations.
5. Responding to hazardous materials incidents, within their level of training.
6. Providing first responder and Emergency Medical Services (EMS)

IV. RESPONSIBILITIES

The Mankato Fire Department is the primary provider of fire suppression and search rescue for an incident/accident at Minnesota State University, Mankato and is responsible for:

- A. Sending a representative to meet with the Minnesota State University, Mankato representatives for a briefing and standby for other operations.
- B. Providing fire, emergency medical, and rescue services to Minnesota State University, Mankato.
- C. Evacuating mobility impaired residents.
- D. Monitoring and decontaminating emergency workers and vehicles.

VI. DISSEMINATION OF THIS MATERIAL

In preparing for eventual dissemination of this material we have proposed the following outline for referencing fire safety issues:

- 1.) Personnel
 - a.) Employees
 - i) Faculty
 - ii) Staff
 - b.) Students
 - c.) Visitors
 - d.) Contractors
- 2.) Property
 - a.) Facilities
 - i) Administration
 - ii) Classroom
 - Academic
 - Labs
 - iii) Sports/Recreational
 - iv) Campus Housing
 - b.) Vehicles/Motorized Equipment
- 3.) Maintenance Employees

FIRE SAFETY INSTRUCTION FOR EMPLOYEES

- All employees are required to follow the Emergency Action Plan (EAP) in order to provide the safest possible response to emergencies.
- **Faculty are required** to instruct each class on the appropriate fire evacuation routes and tornado shelters assigned to the room in which their class is being held.
- **Faculty are required to cover Fire Emergency procedures in the syllabus of the class.**
- Staff are required to respond to emergencies based upon their assigned duties and training.
- NO ONE will be asked or required to place them self in harms way.
- Employees should take personal items such as keys, purses, ect. if time allows.
- **IF IT IS DANGEROUS TO YOU - LEAVE !**
- Provisions must be made to assist challenged individuals out of the building or to a designated safe zone (i.e. stairwells have a fire protection rating of 1 ½ hours). Employees shall not attempt to carrier a person(s) down the stairs. The employee who assists a challenged or sees a challenged individual in the stairwell shall notify the Fire Department of the person's location. The Fire Department will then send appropriate staff to bring the person to safety).
- Employees shall muster at a safe location outside the building.
- Employees shall go to the Emergency Assembly AREA (EAA), when directed by Security or the Fire Department. The EAA is the Taylor Center, Bresnan Arena. Should the Taylor Center be the building being evacuated, the Centennial Student Union Ballroom is the Alternate EAA Location.
- Employees shall not leave the campus unless directed by Security. This is to ensure we can account for all personnel that was located in the building.

FIRE SAFETY INSTRUCTION FOR STUDENTS

- In the event of an emergency, students are expected to comply with all directions given by college personnel in order to effect a safe and orderly evacuation.
- Students will be given instruction as to what is expected of them in each class should an emergency occur.
- Students shall muster at a safe location outside the building or to a designated safe zone (i.e. stairwells have a fire protection rating of 1 ½ hours). Employees shall not attempt to carrier a person(s) down the stairs. The employee who assists a challenged or sees a challenged individual in the stairwell shall notify the Fire Department of the person's location. The Fire Department will then send appropriate staff to bring the person to safety).
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- Students shall go to the Emergency Assembly AREA (EAA), when directed by Security or the Fire Department. The EAA is the Taylor Center, Bresnan Arena. Should the Taylor Center be the building being evacuated, the Centennial Student Union Ballroom is the Alternate EAA Location.
- Students shall not leave the campus unless directed by Security. This is to ensure we can account for all students that were located in the building.

FIRE SAFETY INSTRUCTION FOR VISITORS

- In the event of an emergency, visitors are expected to comply with the direction given by college direction in order to effect a safe and orderly evacuation. Your cooperation and understanding is appreciated in this matter.

FIRE SAFETY INSTRUCTION FOR CONTRACTORS

- Contractors are required to adhere to all current codes, standards and safety rules that are in effect at the time of the work being performed. These include (but are not limited to) building codes, plumbing codes, electrical codes, safety codes and college personnel/property protection codes.
- In the event of an emergency, visitors are expected to comply with the direction given by college direction in order to effect a safe and orderly evacuation. Your cooperation and understanding is appreciated in this matter.

FIRE SAFETY INSTRUCTION FOR ADMINISTRATION OFFICES

- Evacuation plans are to be posted.
- Evacuation plans are to be communicated to all personnel in the area.
- Isle ways are to be maintained free and clear.
- Exit signs are to be visible from all areas of the room.
- Doors are to be kept unlocked when the room is occupied.
- Sprinkler heads are to be kept unobstructed – no storage of anything within 18”.
- Fire alarm pull boxes are to be kept free and clear for instant access.
- Fire extinguishers are to be kept free and clear for instant access.
- Covers on electrical switches and receptacles are not broken or discolored.
- Electrical plug-in strips are plugged into wall receptacles and not into each other or extension cords.
- Extension cords are to be used for temporary power – not to exceed 90 days.
- All employee provided appliances (fans, coffee makers, lights, etc.) must comply with UL Listing. When replacing or buying new coffee makers, it is recommended that units with automatic shut offs be purchased.
- **Personal microwaves and refrigerators are not authorized in individual offices.**
- Storage of material must not present an overhead hazard.
- When leaving for the day (or in a emergency) the area supervisor shall turn off all appliances and lights and close/lock the door.
- Employees should take personal items such as keys, purses, etc. if time allows.
- Employees shall muster at a safe location outside the building or to a designated safe zone (i.e. stairwells have a fire protection rating of 1 ½ hours). Employees shall not attempt to carrier a person(s) down the stairs. The employee who assists a challenged or sees a challenged individual in the stairwell shall notify the Fire Department of the person’s location. The Fire Department will then send appropriate staff to bring the person to safety).
- Employees shall go to the Emergency Assembly AREA (EAA), when directed by Security or the Fire Department. The EAA is the Taylor Center, Bresnan Arena. Should the Taylor Center be the building being evacuated, the Centennial Student Union Ballroom is the Alternate EAA Location.
- Employees shall not leave the campus unless directed by Security. This is to ensure we can account for all personnel that were located in the building.
- Employees are encourage to contact the security department if electrical equipment/appliances that may cause a fire hazard where left on at work.

FIRE SAFETY INSTRUCTION FOR ACADEMIC CLASSROOMS

- Evacuation plans are to be posted.
- Evacuation plans are to be communicated to all personnel in the area.
- Isle ways are to be maintained free and clear.
- Exit signs are to be visible from all areas of the room.

- Doors are to be kept unlocked when the room is occupied.
- Sprinkler heads are to be kept unobstructed – no storage of anything within 18”.
- Fire alarm pull boxes are to be kept free and clear for instant access.
- Fire extinguishers are to be kept free and clear for instant access.
- Covers on electrical switches and receptacles are not broken or discolored.
- Electrical plug-in strips are plugged into wall receptacles and not into each other or extension cords.
- Extension cords are to be used for temporary power – not to exceed 90 days.
- All employee provided appliances (fans, coffee makers, lights, etc.) must comply with campus standards.
- Storage of material must not present an overhead hazard.
- When leaving in a emergency the faculty member shall turn off all appliances and lights and close and lock the door.

FIRE SAFETY INSTRUCTION FOR LABORATORY CLASSROOMS

- Evacuation plans are to be posted.
- Evacuation plans are to be communicated to all personnel in the area.
- Exit ways are to be maintained free and clear.
- Exit signs are to be visible from all areas of the room.
- Doors are to be kept unlocked when the room is occupied.
- Sprinkler heads are to be kept unobstructed – no storage of anything within 18”.
- Fire alarm pull boxes are to be kept free and clear for instant access.
- Fire extinguishers are to be kept free and clear for instant access.
- Covers on electrical switches and receptacles are not broken or discolored.
- Electrical plug-in strips are plugged into wall receptacles and not into each other or extension cords.
- Extension cords are to be used for temporary power – not to exceed 90 days.
- All employee provided appliances (fans, lights, etc.) must comply with UL Listing.
- Storage of material must not present an overhead hazard.
- Ensure that all chemical containers are labeled as to content and hazards.
- DO NOT STORE CHEMICALS ALPHABETICALLY, except within a hazard class. Hazard classes that shall be stored separately include:
 - Caustics (bases)
 - Inorganic acids
 - Organic acids
 - Oxidizing acids
 - Flammable/combustible material
 - Oxidizing materials
 - Pyrophoric materials
 - Radioactive materials
 - Water reactive materials
 - Poisons (Generally laboratory reagents separated into organic and inorganic groups)
- Provide physical separation between hazard classes.
- Store flammable liquids in approved flammable liquid storage containers.
- Store oxidizers well away from flammables.
- Compressed flammable gasses shall be stored 20’ from oxidizing gasses or by a physical barrier having a 1.5 hour fire rating.

FIRE SAFETY INSTRUCTION FOR SPORTS, SPECIAL EVENT, AND MAJOR EVENTS

- Prior to events conducted in the Taylor Center the Emergency Evacuation Instructions CD will be played prior to commencement of the event to notify the attendees of the emergency evacuation routes.
- Prior to use of any other areas of the university for a Special Event or Major Event an Emergency Evacuation Plan will be developed and instructions will be provided to all attendees of the emergency evacuation routes.

FIRE SAFETY INSTRUCTION FOR CAMPUS HOUSING - Information from Reslife

- Smoking
- Barbecue fire safety
- Candle usage
- Cooking
- Emergency Action Plan (EAP) – post/train/practice

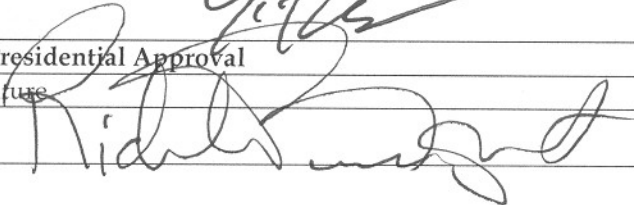
FIRE SAFETY INSTRUCTION FOR VEHICLES/MOTORIZED EQUIPMENT

- Only authorized campus employees shall be allowed to operate campus vehicles/equipment.
- No Smoking when fueling vehicles/equipment.
- Employees must follow all fueling directions in order to prevent fires.
- Employees must follow proper battery disconnecting/connecting procedures in order to prevent fires.
- Only approved portable safety containers will be used for transporting flammable liquids.
- Approved safety containers will be placed on the ground when filling.

FIRE SAFETY INSTRUCTION FOR MAINTENANCE

- Maintenance employees (by the nature of their jobs) have a wide range of responsibilities that impact fire safety on school campuses. They will be involved in all levels of the fire safety program including hazard identification, hazard elimination and emergency response.
- Maintenance employees will be trained in fire safety issues for the entire campus.
- Maintenance employees will provide information assistance to the local fire department in the event of an emergency.

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FA Meet and Confer	11-9-05	2-2-06
Classified Meet and Confer	11-9-05	12/8/06
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MGEC	11-9-05	11-10-05
MMA	11-9-05	2/23/06
Managerial Plan	11-9-05	No response
AAC	11-9-05	12-07-05
SAC	11-9-05	12-08-05
<input type="checkbox"/> Senior Vice President Approval		
Signature		Date of Approval

	2-28-06
<input type="checkbox"/> Presidential Approval	
Signature	Date of Approval
	2/28/06

Pres. Jant

APPENDIX D00 DEFINITIONS

Aisle is a path or route leading to an exit from occupied portions of a room or area formed by boundary elements on one or more sides, such as walls, seats, desks, tables, counters, storage, or equipment.

Authority Having Jurisdiction. "Authority having jurisdiction" means the governmental organization, office, or individual responsible for approving equipment and installation or a procedure.

BOCA. Building Officials and Code Administrators International, Inc., They are dedicated to preserving the public health, safety and welfare in the built environment through the effective, efficient use and enforcement of Model Codes. BOCA is the Original professional association representing the full spectrum of code enforcement disciplines and construction industry interests. They are the premier publishers of [model codes](#).

Building Code. "Building code" means the Minnesota State Building Code adopted pursuant to Minnesota Statutes, section 16B.61, subdivision 1, and includes future amendments to the building code.

Campus Security Office. The office responsible for security at the campus. This office may have several campus staff functioning in this office as secondary duties to normal daily functions.

Complex Directors (CA) This person(s) is responsible for the direct contact with students in resident housing on campuses that have or manage student housing.

Corridor is an interior passageway having a length at least three times its width, having walls, partitions or other obstructions to exit travel over 6 feet in height on two opposing sides, and having openings from rooms or similar spaces.

Days. "Days" means calendar days when referring to the amount of time when the performance or doing of any act, duty, matter, payment, or thing is ordered, directed, or prescribed.

Emergency Action Plan (EAP) This is written plan to manage incidents. EAP are required by OSHA.

Emergency Preparedness Coordinator. This person is responsible for emergency preparedness at campuses and the formulation of documents outlining plans.

Environmental Health and Safety and Risk Management Office (EHS Office). The office is responsible for safety for the university.

Factory Mutual (FM). Factory Mutual Research, tests and Approves construction systems, building materials, protection equipment and other equipment for use in hazardous areas. Factory Mutual Research-Approved equipment can be identified by the FM diamond trademark. The Factory Mutual Research Approval Guide is published and updated three times a year, and can be used as a handy reference when detailing project specifications for materials and equipment.

Fire code. "Fire code" means the Minnesota Uniform Fire Code adopted pursuant to Minnesota Statutes, section 299F.011, subdivision 1, and includes future amendments to the fire code.

Fire/EMS/Safety Center. The Fire/EMS/Safety Center is part of the Office of The Chancellor. It's staff are specialist in the areas of fire, emergency medical and safety related issues.

Fire Protection-Related Work. "Fire protection-related work," when applied to a licensed fire protection contractor, means the sale, design, installation, modification, or inspection of a fire protection system, its parts, or related equipment, or the offer to do so. Fire protection-related work, when applied to a journeyman sprinkler fitter or an apprentice sprinkler fitter, means the installation, connection, alteration, repair, or addition to a fire protection system.

Fire Safety Engineer. The Fire Safety Engineer oversees the fire safety program with specific responsibility for evacuation plans/drills and building inspections for compliance with statewide fire codes. The Fire Safety Engineer is also the liaison with local fire departments and the State Fire Marshal's Office. (Duties are currently under EHS Office)

Inspect Or Inspection. "Inspect" or "inspection" means conducting a final acceptance test or a test that an authority having jurisdiction requires to be conducted.

International Fire Code (IFC). This code will be adopted by Minnesota in the near future (April of 2003) and will replace the reference to "State Fire Prevention Code"

Local Fire Marshal. Oversees the fire safety program with specific responsibility for evacuation plans/drills and building inspections for compliance with statewide fire codes.

Officer. "Officer" means an officer of a section, division or unit having specified authority by a manager of a section, division or unit having responsibility specified in this policy.

National Fire Protection Association (NFPA). NFPA develops, publishes, and disseminates timely consensus codes and standards intended to minimize the possibility and effects of fire and other risks. Virtually every building, process, service, design, and

installation in society today is affected by NFPA documents. More than [300 NFPA codes and standards](#) are used around the world.

Physical Plant Personnel. The personnel and office that maintains facilities and properties of the campus.

Potable Water Source. "Potable water source" means a gravity tank, fire pump, reservoir or pressure tank, well, city main, or any combination of these that provides a reliable, constant, and sufficient supply of water capable of being used for human consumption.

Public Information Office. The public information officer or office (PIO) is the person or office that releases information to the media. This person or office works directly with the President of the University or College.

Residential Life. This office or person(s) is responsible for the resident housing on campuses that have or manage student housing.

Security Office. The office responsible for security for the university. This office may have several campus staff functioning in this office as secondary duties to normal daily functions.

State Approval Agency. "State approval agency" means the state agency in Minnesota that has regulatory authority over a specified area.

State Fire Marshal. State Fire Marshal Division is to protect lives and property by fostering a fire safe environment through investigation, enforcement, regulation, emergency response, data collection and public education. State Fire Marshal is the Minnesota state fire marshal or the state fire marshal's authorized representatives.

State Fire Prevention Code. This is the fire regulations and fire codes that are enforced by the various agencies in the state of Minnesota.

Underwriter Laboratory (UL). Underwriters Laboratories Inc. (UL) is an independent, not-for-profit product safety testing and certification organization. UL has tested products for public safety for more than a century. Each year, more than 17 billion UL Marks are applied to products worldwide. Since it's founding in 1894, they have held the undisputed reputation as the leader in U.S. product safety and certification. UL is becoming one of the most recognized, reputable conformity assessment providers in the world.

APPENDIX D01 FIRE SAFETY INSPECTION CHECKLIST ITEMS

Emergency Action Plan

	Authority
<p>Fire Prevention Plan Written</p> <ul style="list-style-type: none"> List of major workplace fire hazards <ul style="list-style-type: none"> Proper handling Storage procedures Potential ignition sources Control procedures Types of fire protection equipment/systems Names/job titles of personnel responsible for maintenance of fire protection equipment or systems Names/job titles of personnel responsible for control of fuel source hazards Housekeeping – control of accumulations of flammable or combustible waste material and residue Training - the employer must apprise employees of the fire hazards of the material/processes present <ul style="list-style-type: none"> Training upon initial assignment for the area(s) to which the employee will be exposed Written plan must be kept in the workplace and available for employee review Maintenance – employer shall establish and maintain written procedures and properly maintain equipment/systems to prevent accidental ignition of combustible material 	<p>1910.38(b)(1 thru 5) & Appendix E</p>

General Fire Protection

	Authority
Is your local Fire Department familiar with the campus and it’s hazards?	MnSCU requirement
Is there a fire alarm system? Certified? Tested annually?	1910.37(n)
Are interior standpipes and valves inspected on a regular basis?	1910.36(d)(2)
Are outside hydrants flushed annually and on a regular preventative maintenance schedule?	1910.36(d)(3)
Are fire doors and shutters in good operating condition? Fusible links? Is counterweights and door/shutter operation unrestricted?	1910.36(d)(2)
Automatic sprinkler system – Is water control valves, air and water pressure checked weekly/periodically?	1910.36(d)(2)
Is maintenance of the sprinkler system assigned to an employee or a contractor?	1910.36(d)(2)
Are sprinkler heads kept free and clear or protected by a metal guard?	1910.159(c)(8)(iii)
Are portable fire extinguishers selected and provided for the types of material in the area that they are provided?	1910.157(d)(1)
Are extinguishers mounted in accessible locations and inspected regularly?	1910.157(c)(4)

Are employees required to use extinguishers on incipient stage fires?	1910.157(g)(1)
Are employees trained on extinguisher use?	1910.157(g)(1)&(2)

MEANS OF EGRESS

Authority

Are halls, isles and passageways marked and kept clear?	1910.22(k)(2)
Are changes in direction/elevation readily identified?	1910.37(j)
Is adequate headroom provided for the entire length of the walkway?	1910.37(i)
Are floor and wall openings, between fire zones provided with a self-closing door/cover that are fire rated for the application?	1910.37(b)(3)
Are all exits marked with an exit sign and illuminated?	1910.37(q)(1),(6),(7),(8).
Are directions to exits mark with visible signs?	1910.36(b)(5)
Are doors, stairways and passages that do not lead to an exit marked as such?	1910.36(b)(5)
Are all exit doors side hinged?	1910.37(f)(2)
Do exit doors swing open with the flow of use?	1910.37(f)(2)
Are all exit doors kept unlocked while the building is occupied?	1910.36(b)(4)
Are all exits kept free from obstructions? (Snow and ice)	1910.36(d)(1)&(g)(3)
Are at least two means of egress provided when flammable or explosive substances use would increase the risk of injury?	1910.36(b)(8)
Are windows that could be mistaken for exit doors provided with barriers/railings?	1910.36(b)(5)
Are swinging doors provided with a viewing panel in each door?	1910.37(a)
Are exit discharges onto outside areas protected from traffic?	1910.37(h)(1)
Are buildings designed to current Fire/Life Safety Codes?	1910.36(b)
Is existing fire protection maintained when buildings are being repaired or altered?	1910.32(c)(2)
Are safeguards provided when flammable/explosives are brought into a building during repair?	1910.36(c)(3)

MAINTENANCE

Authority

Is combustible waste removed daily?	1910.107(g)(2)&(3)
Are accumulations of combustible dust routinely removed from overhead surfaces by vacuuming to prevent the dust from going into suspension?	1910.107(l)(4)(ii)
Are approved containers used to store and handle flammable/combustible liquids?	1910.106(d)(2)(ii)
Are storage rooms for flammable liquids designed and maintained to specifications?	1910.106(d)(4)(i)
Are bulk drums of flammable liquids bonded/grounded during dispensing?	1910.107(e)(9)
Are LP gas tanks guarded to prevent damage?	1910.110(h)(11)
If two or more exhaust systems are combined will the	1910.94(c)(5)(ii)(a)

combination of substances create a fire hazard in the duct?	
Is the source point for air makeup located so that only clean fresh air will enter the area?	1910.107(d)(9)

TOOLS AND EQUIPMENT

Authority

Are all tools and equipment used by employees in good condition?	1910.242(a)
Are all cord-connected, electrically operated tools and equipment effectively grounded or of the approved double insulated type?	1910.304(f)(5)(v)(B)&(f)(5)(vi)
Are extension cords of the grounding type and is continuity maintained?	1910.304(f)(4)

WELDING, CUTTING and BRAZING

Authority

Are only authorized and trained employees permitted to use welding, cutting and brazing equipment?	1910.252(a)(2)(iv)
Are compressed gas cylinders regularly examined for obvious signs of defects, deep rusting or leakage?	1910.101(a)
Are cylinders equipped with a valve protection collar or device?	1910.101(b)
Are cylinders legibly marked as to their content?	1910.253(b)(1)(ii)
Are cylinders stored in areas away from external heat sources?	1910.253(b)(2)(i)
Are cylinders stored in areas where they will not be damaged by passing or falling objects?	1910.253(b)(2)(ii)
Are cylinders stored in areas where unauthorized personnel cannot get to them?	1910.253(b)(2)(ii)
Are cylinders stored to prevent them from tipping over?	1910.253(b)(2)(ii)
Is flammable compressed gas stored separate (by 20') or a 5' non-combustible partition (having a 1.5 hour fire rating) from oxidizing compressed gas cylinders?	1910.253(b)(4)(iii)
Are cylinders transported so that they won't fall?	1910.253(b)(5)(iii)(A)
Are valve protectors always in place when transporting or storing cylinders?	1910.253(b)(2)(iv)
Are in-use cylinder valves closed before cylinders are moved?	1910.253(b)(5)(ii)(F)
Are only approved mixing devices used? (torches, regulators, manifolds, etc)	1910.253(a)(3)
Are empty cylinders marked, valves closed and valve protectors in place?	1910.253(b)(5)(ii)(H)
Are cylinders and devices (torches, hoses, regulators, etc) kept free from oils and grease?	1910.253(b)(5)(ii)
Is red used to identify the fuel hose, green the oxygen hose and black for the inert gas and air hoses?	1910.253(e)(5)(i)
When arc welding is the grounding of machine frames checked?	1910.254(c)(2)(i)
Is it required that electric power be shut off when the welder is not in use?	1910.254(b)(4)(v)

Are fire hazards removed or shielded when welding?	1910.252(a)(1)(i)&(ii)
Is a fire watch assigned when welding or cutting in locations where a serious fire might develop?	1910.252(a)(2)(iii)(8)
Are combustible floors kept wet, covered with damp sand, or protected by a fire resistant shield?	1910.252(a)(v)
When welding on walls are combustibles on the other sided protected?	1910.252(a)(2)(iii)(A)(4)
Are all metal containers thoroughly cleaned of ignitable vapors or toxic residue before being welded on?	1910.252(a)(3)(i)

FORKLIFTS & INDUSTRIAL TRUCKS

Authority

Are only trained employees authorized to operate trucks?	1910.178(l)
Are only trucks approved for hazardous locations used in those ar	1910.178(m)(11)
Are open flames and high heat sources kept out of battery charging repair areas?	1910.178(p)(5)
Is it prohibited to fuel a running internal combustion engine while the engine is running?	1910.178(f)(1)&(2) NFPA 30 & 58
If fuel spillage occurs, are there procedures to control vapors prior to restarting the engine?	1910.178(p)(3)
Is fueling equipment rated for the specific type of fuel used?	NFPA 30 & 58 – 1969
Is it prohibited to transfer flammables in open/glass containers?	1910.107(e)(3)
Is smoking prohibited in all fueling and battery charging areas?	1910.178(g)(10)
Are flammable materials kept out of the passenger areas of vehicle	Mn Rule 5205.0750 Subp 3(A)

SPRAYING OPERATIONS

Authority

Is mechanical ventilation provided in all areas before spraying operations are started?	1910.107(d)(2)
Will ventilation circulate the contaminated air?	1910.107(d)(3)&(d)(9)
Are spray areas kept free from ignition sources? (20' from all open flames and electrical devices)	1910.107(c)(2)
Is combustible residue removed from spray areas/booths regularly?	1910.107(g)(2)
Are spray booths made of metal, masonry or other substantial noncombustible materials?	1910.107(b)(1)
Is electrical equipment used in spray areas/booths rated for those hazard locations? (drying equipment, lights, motors, etc)	1910.107(c)(1)
Are spray areas/booths protected by an automatic sprinkler system?	1910.107(h)(12)&(b)(5)(iv)

CONFINED SPACES

Authority

Does each confined space have a set of procedures for entry – including the control of flammable materials?	1910.146(c)(5)
Are confined spaces tested for an explosive atmosphere before a lighted torch is to be taken into the space?	1910.146(c)(5)(ii)(C)(i)
Are exhaust gases from combustion-type equipment vented outside?	1910.146(c)(5)(ii)(E)(i)

of the space?	
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ELECTRICAL

Authority

Is ALL electrical work performed to National Electrical Code specifications?	Mn State Building Co
Do switches and receptacles have covers that are not broken or discolored?	1910.305(b)(1)
Are extension cords only used for temporary power?	1910.305(a)(2)(i)(C)

APPENDIX D02 FIRE DETECTION AND WARNING EQUIPMENT

Fire alarms

Manual pull-stations are located along the means of egress, usually at exit doors, to provide a means to alert occupants to a hazardous condition. Except for Blakeslee Stadium and Metal Storage sheds, all other alarms in academic buildings, residential life buildings, and Centennial Student Union are monitored by the central monitoring station. To reduce malicious alarms some stations are equipped with covers that sound an internal alarm when the cover is removed.

Testing.

The Electrical Department and outside contractors install, repair, and test the fire alarm system. The fire alarm systems are checked annually by Olsen Fire Inspections during winter break in accordance with National Fire Protection Association (NFPA) regulations. Problems are corrected as quickly as possible using Simplex Grinnell and Gamewell Fire Alarm Companies. Records are maintained in the Environmental Health and Safety Office concerning all tests.

False Alarms.

Persons who knowingly turn in a false fire alarm endanger the lives of others and may cause damage to the persons and equipment responding to the false alarm. This is a violation of the laws of the State of Minnesota and may result in jail terms and/or fines. Persons maliciously activating fire alarms or fire detection equipment will be severely disciplined. Possible dismissal from student residence, expulsion from school, and/or criminal prosecution is possible.

Investigations.

All fire alarms are investigated by Security to determine the cause or source. A fire incidence report is completed by Security and forwarded to Fire Alarm Technician and the EHS Office as appropriate. Further investigation is conducted by the Fire Alarm Technician or EHS Director to determine if additional corrective action is needed to prevent a re-occurrence of the problem.

APPENDIX D03 SMOKE DETECTORS

Smoke detectors respond to both visible and invisible products of combustion and sense fire at the earliest practical detection stage. Since the mid 1970's, when smoke detectors became widely available, there has been a tremendous reduction in the number of fire deaths in the U.S. Smoke detectors are used for numerous fire alarm functions ranging from warning occupants to automatically closing doors.

Locations.

Gage Complex, a residential building, has single station smoke detectors located in sleeping areas. Hardwired detectors are located in the hallways and public spaces.

Hardwire smoke detectors are present in all other academic buildings, residential life buildings, and the Centennial Student Union. Some of the smoke detectors connected to the fire alarm system provide the following functions: shutting down air handler units, elevator recall, and release of magnetic door holders. These detectors are powered by the building fire alarm power source.

Inspections.

Residential Life requires that the smoke detectors are connected and operation at all times. Residential Life requires that residents test their own battery operated smoke detectors the first Monday of each month. Battery operated smoke detectors are located in the Gage Complex.

Any problems should be reported to the Complex Director or go to the main desk for the complex and get replacement batteries. Residential Life inspects all room smoke detectors during the winter and summer school closings. Inspections are documented and maintained in the Residential Life Office. Work orders are submitted for all problems identified.

The Resident Director will, at the beginning of each semester, post signs on the hall bulletin boards reminding students to check room battery operated smoke detectors every week. Notices are also posted in the dorms to remind students to check their smoke detector. Hardwired smoke detectors in the Residence Halls are inspected annually by an outside contractor.

Maintenance.

In order for smoke detectors to function properly they must be periodically cleaned and tested. Resident Directors change batteries as needed. Residential Life routinely changes batteries twice a year. Dust accumulates in detectors over time and reduces the ability of the detector to detect smoke. Simple vacuuming on a regular cycle increases life expectancy and reliability. Hardwired smoke detectors in the Residence Halls are cleaned and tested by Olsen Fire Inspection Co. annually to ensure the sensing chamber and alarm circuits function properly.

Abuse.

Misuse, deactivation or tampering with smoke or heat detectors is prohibited. Smoke detectors must not be covered or blocked. Nothing may be attached to the wiring of hardwired detectors.

APPENDIX D04 HEAT DETECTORS

Heat detectors typically operate when a preset temperature has been reached or a rapid temperature change occurs.

Heat detectors are the least expensive fire detectors and have the lowest false alarm rate.

They are also the slowest in detecting fires.

Locations.

Heat detectors are frequently found in mechanical rooms, storage rooms, attics, and other normally unoccupied areas.

These devices are also found in kitchen areas, where smoke and steam could cause smoke detectors to give false alarms.

Inspection and Maintenance.

Oslon Fire Inspection Company inspects and tests heat detectors annually.

APPENDIX D05 FIRE SUPPRESSION EQUIPMENT

The Campus maintains appropriate fire suppression systems in each building to include:

- fire extinguishers,
- sprinkler systems,
- standpipes

Locations.

Fire suppression equipment is frequently located throughout the facilities and found near mechanical rooms, storage rooms, attics, and other areas.

Inspection and Maintenance.

Olson Fire Inspection Company inspects the sprinkler system annually.

Nardini Fire Equipment Company inspects and maintains the Carbon Dioxide fire suppression system for the chemical storage room annually.

APPENDIX D06 PORTABLE FIRE EXTINGUISHERS

Portable fire extinguishers are the first line of defense against a fire. They are designed to extinguish or contain a small fire or open an escape route. Portable fire extinguishers are not designed to fight a large or spreading fire. Fire extinguishers should be used after the evacuation plan has started. If you know how to use an extinguisher, locate and identify the ones in your area . . . before you need them.

Operation.

Persons trained in their proper use should only use fire extinguishers. If you have the slightest doubt, get out and report the fire so the fire department can be called.

1. Never fight a fire if:

- * The fire could block your escape route.
- * You are unsure of the proper operation of the extinguisher.
- * You are in doubt that the extinguisher is designed for the type of fire or is large enough.

2. Fight the fire only if all of the following are true:

- * The fire department has been notified.
- * The area has been evacuated.
- * The fire is small and confined to its immediate area of origin (wastebasket, sofa, small appliance).
- * You have a way out and can fight the fire with your back to an exit.
- * You have the proper extinguisher and know how to use it.
- * You use careful judgment and get out fast if the fire starts to spread.

3. To operate a fire extinguisher, recall the word PASS:

- * PULL the pin by grasping the extinguisher neck in one hand and removing the pin with the other.
- * AIM the nozzle, hose, or horn at the base of the fire.
- * SQUEEZE the handle to release the extinguishing agent.
- * SWEEP from side to side at the base of the fire until it is out.

Responsibilities.

Approximately 900 portable fire extinguishers are located throughout the campuses. The EHS office will schedule fire extinguisher training through Mankato Fire Department. Physical Plant Personnel will be responsible for inspecting, testing, and refilling fire extinguishers. Hydrotesting and 6yr Maintenance will be conducted Mankato/Fairmont Fire and Safety.

Types Of Fire Extinguishers.

Fire extinguishers vary in type based upon the extinguishing agent they contain. Every extinguisher must be clearly labeled to show the classification of the fires it is effective

against. Water fire extinguishers must be labeled to indicate that they cannot be used on electrical fires. Pictograms show in blue the type of fire the extinguisher should be used against. Fires on which the extinguisher should not be used are shown in black with a red slash through the pictogram. Extinguishers may carry labels, pictograms or both.

Class A.

Class A fire extinguishers are used to extinguish fires in ordinary combustibles such as wood, paper, cloth, rubber, and plastics. These extinguishers should not be used on electrical, flammable liquid or combustible metal fires. Extinguishers effective against type A fires contain water or a special dry chemical agent.

Class B.

Class B fire extinguishers are effective against flammable liquids and gas fires such as solvents, oil, gasoline, and grease. Dry chemical agents, carbon dioxide, and halogenated agents are typically used. Water will only spread a flammable liquid fire and should not be used as an extinguishing agent for Class B fires.

Class C.

Class C fire extinguishers are used to extinguish fires involving energized electrical equipment. Non-conducting agents such as dry chemical, carbon dioxide, or halogen compounds are used. Water should never be used to extinguish an electrical fire.

Class D.

Class D fire extinguishers contain a special granular formulation that is effective against combustible metal fires such as sodium, potassium, magnesium, and lithium. Normal extinguishing agents must not be used against combustible metal fires because they may increase the intensity of the fire.

Class ABC- Extinguisher

ABC fire extinguisher will put out most types of fires that could start on campus- wood, paper, flammable, and electrical fire. These extinguishers are also known as multi-purpose extinguishers. Most extinguishers on campus are classified as ABC.

Class K- Extinguisher

K fire extinguishers are used to extinguish fires involving cooking oils in kitchens.

Location.

Fire extinguishers are installed according to guidelines established by BOCA and NFPA. Laboratories, workshops and other areas in which flammable solvents are used must have an appropriate fire extinguisher. Travel distances should normally be less than 75 feet for ordinary combustible and 50 feet for flammable liquids.

Access.

Fire extinguishers should be readily accessible and the location of the extinguisher should be clearly identified. Fire extinguishers must be mounted off the floor and no higher than five feet. Extinguishers weighing more than 40 lbs. should be mounted no higher than 3 1/2 ft.

Inspections.

All portable fire extinguishers should be visually inspected each month. Missing discharged, or damaged fire extinguishers are usually replaced by the Physical Plant within one week in low hazard areas. Fire extinguishers are replaced within one day in high hazards areas and areas with overnight accommodations. Broken glass in fire extinguisher boxes in the Residence Halls will be replaced by the Resident Life.

Records.

Maintenance, hydrostatic testing records and an inventory of all fire extinguishers are maintained by the Physical Plant. Hydrostatic testing and maintenance records are placed on the fire extinguisher.

Training.

Training on the proper use of portable fire extinguishers is offered by the EHS Office through the Mankato Fire Department, for faculty, staff, and students. Classes can be scheduled by calling the EHS Office. A maximum of 40 students per class will be allowed.

Maintenance.

The Physical Plant personnel will assure that maintenance is performed on portable fire extinguishers.

A qualified and licensed contractor tests automatic extinguishers located in kitchens. Record are kept showing the inspection date, maintenance date, type of extinguisher, and name of the person performing the maintenance. Upon completion of the routine yearly maintenance the fire extinguisher tag is initialed. Maintenance procedures include a thorough examination of mechanical parts, extinguishing agent and expelling means. Hydrostatic testing is performed within the time specified by the manufacturer according to NFPA 10. An outside contractor does hydrostatic testing.

Misuse.

Misuse of fire extinguishers is prohibited. Fire extinguishers are not to be removed from their proper locations or discharged unless there is a true fire emergency. Anyone found tampering with a fire extinguisher will be subject to disciplinary action. Report vandalism and/or discharged fire extinguishers to the Physical Plant.

Recharging.

Fire extinguishers shall be inspected and recharged after any time the seal on the fire extinguisher has been broken. Any usage of a fire extinguisher shall be reported to the Security Department.

APPENDIX D07 FOOD SERVICES FIRE PROTECTION SYSTEMS

Kitchen and Food Services Fire Protection Systems.

Kitchen and food service systems extinguishing systems consist of cylinders of dry or wet extinguishing agent connected by piping to discharge nozzles.

The nozzles are located in the hoods over cooking appliances such as grills and deep fat fryers. The extinguishing agent is activated by manual activation of a pull station or discharge button, or automatic activation of heat activated fusible links in the hood.

Systems in Gage, Carkoski Commons, Taylor Center, and Wiecking Center will activate the building alarm. Dry chemical systems act the same way as ABC dry powder fire extinguishers. Powder from these systems smothers the fire and can cover everything in the kitchen. A kitchen can be put out of operation for several hours. Wet chemical systems use a foamy material similar to soap that smothers and cools the fire. The wet extinguishing agent stays in the hood area and does not spread throughout the room.

Carkoski Commons	Chet's Place	
Carkoski Commons	Kitchen – Fryer + Boiler	R102 - 3 Gallon
Carkoski Commons	Kitchen – 2 Fryer	R102 - 3 Gallon
Carkoski Commons	Kitchen – 4 Fryer	R102 – 3 + 3+ 3
Carkoski Commons	Kitchen -2 Fryer	R102 - 3 + 3
Gage	Kitchen Hood Pizza	WHDR 250 AQUA Blue
Gage	Kitchen Hood Back	WHDR 250 AQUA Blue
Gage	Kitchen Hood Back	WHDR 600
Gage	Kitchen Hood Back	WHDR 400
Gage	Kitchen Hood Fryer Guard	WHDR 250 AQUA Blue
Taylor Center	Kitchen Hood	R102 3 + 1.5 Gallon
Wiecking Center	Children's House	AR5
Centennial Student Union	Kitchen Hood Mesquite	R102 3 + 3 Gallon
Centennial Student Union	Kitchen Hood Fryers	R102 3 + 3 Gallon
Centennial Student Union	Kitchen Hood Main	R102 3+3+3+3 Gallon
Centennial Student Union	Kitchen Hood Players	R102 3 Gallon

Inspection and Maintenance

Fire suppression systems in the kitchens and food service areas are inspected and cleaned by Nardini Fire Equipment Company semi-annually.

Hoods and ducts are cleaned annually or as needed.

Filters are inspected and cleaned quarterly or as needed.

Fusible links are replaced every six months.

The Physical Plant Personnel conducts periodic inspections to oversee the work of the contractors.

APPENDIX D08 STANDPIPES & HOSE SYSTEMS

The purpose of a standpipe system is to provide hose connections inside the building, usually located in or near stairwells.

Hose connections may be designed for use by the fire department or building occupants.

Generally 2.5-inch lines are used by fire departments.

Use.

Only trained personnel should use hoses. Standpipe systems should be used with caution because the pressure may be difficult to control. Unless occupants are properly equipped and trained, it is best to leave hose lines to fire fighters. Hose connections should be in readily accessible locations, clearly visible, and in good working order. The local fire departments may train with the systems.

Inspections.

Olsen Fire Inspection Company inspects standpipes every year for water flow. Inspection records are kept on file in the Physical Plant Office.

APPENDIX D09 AUTOMATIC SPRINKLER SYSTEMS

Automatic sprinkler systems consist of a series of pipes and nozzles that distribute water when heat activates the sprinkler heads. Most sprinkler heads activate at 165 F. Only the heads exposed to this heat will discharge. They are typically connected to the building fire alarm systems. Automatic sprinkler systems are extremely effective at preventing fire spread. In terms of life safety there have been no reported cases of multiple deaths occurring in fully sprinkled buildings where the system was operating properly. Sprinklers seldom fail to control fires, but when they do, failure is usually due to a closed supply valve.

Location.

Automatic sprinkler systems are located in the following buildings:

1. Armstrong Hall
2. Carkoski Commons – partial - basement, food service kitchen, and Hallways
3. Centennial Student Union
4. Crawford Center – partial - basement
5. Crawford A,B,C,D – partial – basement, trashrooms
6. Gage Food Service Center
7. Gage A & B Towers
8. Gage B Tower
9. Hazardous Waste Bldg.
10. Highland Center
11. Highland Center North – partial – hallway
12. McElroy Center – partial – basement
13. McElroy E,F,G,H,I – Partial – basement, and trash rooms
14. Memorial Library – partial – basement, third floor
15. Morris Hall
16. Myer’s Fieldhouse
17. Nelson Hall – Partial – Annex and Third Floor – Project to sprinkler whole building underway.
18. Otto
19. Pennington – Under construction
20. Performing Arts
21. Taylor Center
22. Trafton East
23. Trafton North, South, Center – Partial – basement, flammable storage room, clean room
24. Wiecking Center – Partial – basement, ROTC, auditorium, Upward Bound
25. Wigley Administration Bldg
26. Wissink Hall

All buildings have automatic sprinkler systems except for the following:

1. Alumni Foundation Bldg.

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2. Andreas Observatory
 3. Blakeslee Stadium
 4. Central Utility Plant

Inspections.

All automatic sprinkler systems are inspected annually by an Olsen Fire Inspection Company. Documentation is maintained in the Physical Plant Office.

Precautions.

Storage shall be maintained at least 18 inches below the sprinkler head. Sprinkler heads must be kept clean and not painted. Ensure that all heads are pointed down. Do not cover or block sprinkler heads. Piping shall not be used to support ladders, equipment or other materials.

APPENDIX D10 FIRE SAFETY INSPECTIONS

Buildings.

A comprehensive inspection of all Campus buildings is conducted bi-annually by the Safety Committee and the Campus Safety Office to ensure compliance with applicable fire codes. Reports are sent to affected departments for correction.

Equipment.

An outside contractor inspects all pressure vessel-heating units annually. An inspection certificate will be placed near each piece of equipment. Electrical panels, large motors, and air-conditioning equipment are inspected annually by Physical Plant personnel.

Fire Protection Equipment.

All fire suppression and detection equipment is periodically inspected by the Campus Safety and Fire Alarm Technician, or an outside contractor to ensure safe operation.

State Fire Marshal.

Code compliance inspections are conducted in campus buildings as scheduled by the local or State Fire Marshal's Office. Corrections are made in a timely manner.

Residence Halls.

Resident Directors perform a monthly fire safety inspection using a form provided by the Campus Safety Office. This will include an inspection of all fire extinguishers, storage rooms for combustible materials, hallways for obstructions, exit lights, fire doors, and to ensure that fire evacuation procedures are conspicuously posted. The form is signed and returned to the Campus Safety Office for correction of fire hazards. The Campus Safety and Safety Committee also conducts bi-annually inspections of the Residence Halls.

Building Plans.

Building plans for new and renovated campus construction projects are reviewed by the State Fire Marshal's Office for compliance with life safety codes and applicable fire safety standards.

APPENDIX D11 FIRE HAZARDS BUILDINGS

Fire hazards at a Campus can range from popcorn in a microwave oven to flammable liquids stored in a laboratory. Usually most fires are small and are quickly extinguished. Fires on college campuses are especially difficult because of the population density. Students are concentrated in classrooms, places of assembly, and dormitories. When a fire starts, it can affect a large population at one time. Another problem complicating the fire problem on campuses is the nature of the buildings. Buildings housing classrooms and residences can be old, unprotected with open stairwells, and have limited fire equipment.

The following procedures are designed to reduce the potential for fires in all buildings by controlling combustible materials, reducing ignition sources, and ensuring that means of egress are properly maintained.

Academic Buildings, Centennial Student Union, and Foundation Buildings:

Prohibited Items

1. Firearm ammunition and explosives (including firecrackers) are not permitted in Campus buildings unless stored in a designated and authorized location. The location will be supplied to the EHS office with amount of material stored.
2. Motorized vehicles (motorbikes, mopeds, or motorcycles) may not be stored or parked inside buildings under any circumstances.
3. Gasoline is not allowed in any Campus building. Unless stored in designated and authorized locations (e.g. Nelson Hall Garage – Flammable Cabinets.)
4. The storage of excessive amounts of paper is prohibited.
5. Open or enclosed flame devices including candles, incense, or similar items are not permitted in campus offices.
6. Grilling indoors is not authorized unless it is being performed by Chartwells and all precautions are followed to prevent a fire and smoke from entering the building.

Appliances

1. Extension cords are for temporary service only and cannot be used in place of permanent hardwiring. Cords must not be routed unsafely (under carpet, etc.). Spliced, taped, frayed, or undersized cords must not be used. Unsafe extension cords may be confiscated and disconnected. Generally, extension cords should be limited to use by maintenance personnel.

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2. Hot plates, heating coils, and toaster ovens used for cooking are prohibited in all spaces in buildings.
 3. Multiple plug adapters must be Underwriters Laboratory (UL) approved and have a built in breaker that has a maximum load of 15 amps. Cube taps are not permissible.
 4. Use the appliance only for its intended purpose.
 5. Never use an appliance if it has a damaged cord or plug, is not working properly, or has been dropped or damaged.
 6. Never block the air openings of an appliance.
 7. Do not use an appliance where flammable liquid vapors, or aerosol products are being used.
 8. Coffee pots should have an automatic shut off. Coffee pots should be near a door so they can be seen as people walk out of the door.
 9. Dimmer switches and ceiling fixtures may not be installed.

Space Heaters

Space Heaters are not authorized for use unless it is required by a medical condition. The requestor must provide written documentation of the specific need from their health care provider. This includes the temperature range for the individual.

The individual requesting the use of a space heater will notify the Chief Engineer, who will consult with engineering consultants, if necessary, to determine the specific modifications needed and will make the necessary facility modifications. If modifications can not satisfied the temperature range, the use of a space heater will be authorized.

Space heaters have resulted in unequal heating of office spaces because they interfere with the normal operations of the climate controls. Departments may have to relocate employees that need a space heater, because of the location of climate controls in the work area. Unauthorized space heaters will be confiscated and removed from the work site.

1. Space heaters must be electric powered. Fuel powered (propane, kerosene) are not permitted.

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2. Space heaters must be Underwriters Laboratory (UL) approved and have a tip-over shutdown switch.
 3. Place space heaters at least three feet from combustible materials.
 4. Turn off and unplug the heater when leaving the area.
 5. Space heaters must have a thermostat that automatically shuts off when a certain temperature is reached.
 6. Space heaters must be plugged directly into the wall receptacle. Extension cords are not allowed. The use of an extension cord that is not rated for your heater could cause a fire.
 7. Place heaters on the floor. Never place on cabinets, tables, or furniture.
 8. Beware of creating a tripping hazard. Do not place heaters in exits or walkways.

Holiday Decorations

For personal protection faculty, staff, and students are urged to use good judgment in decorating offices and classrooms so that furniture, posters, fish nets, mobiles, etc., do not create potential fire hazards.

The increasing use and availability of combustible materials for decorations and displays can lead to serious fire hazards. To prevent the possibility of fires everyone is asked to cooperate in enforcing the following safety standards for decorations and displays. Highly combustible materials include paper and cloth of all varieties, plastics, and all vegetation. It does not include lumber, peg board, or paper mache. In order to reduce the potential for fires the following procedure should be adhered to:

1. All decorations using combustible materials shall be treated with a flame retardant solution. The label on commercial decorations will indicate if the item has been flame proofed.
2. Paper or other materials must be kept at least 12 inches away from any incandescent or fluorescent bulb. Improvised paper shades for lights are not to be used.
3. All electrical equipment (such as lights, wires, plugs, connectors, sockets, etc.) must be UL (Underwriter's Laboratory) approved and in good condition. The use of cube taps and improvised wiring is prohibited. Extension cords are strictly prohibited.

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4. Open or enclosed flame devices (i.e., candles, kerosene or gasoline lanterns, torches, oil lamps, etc.) are not permitted.
 5. No decorations or displays shall be erected in a way that blocks or obstructs an exit, exit lights, fire suppression equipment, or fire detection equipment. Decorations are prohibited in a means of egress. Do not hang decorations from the ceiling.
 6. To reduce fuel sources all materials should be promptly and properly disposed after the celebration is over or before leaving on holiday break.

Housekeeping

Good housekeeping practices can prevent fires, control the spread of fires in case of ignition, and avert injury during evacuation. The following describes several basic housekeeping requirements:

1. Provide sufficient waste receptacles and empty on a daily basis.
2. Keep oily rags in a covered metal container.
3. Remove litter from hallways, stairways and floors on a daily basis.
4. Keep the accumulation of paper and flammables to a minimum.
5. Store combustible materials away from heating devices.
6. Combustible materials should not be stored in attics.
7. Frequently remove finely divided material by use of broom or vacuum.
8. Provide sufficient ashtrays in smoking areas.
9. Ensure that flammable liquids are stored properly.
10. Keep passageways clear of obstacles.
11. Do not store materials closer than 18 inches from a sprinkler head.
12. Keep fire doors unblocked and do not prop open.
13. Do not store materials in stairwells.
14. Materials should never block fire extinguishers, sprinklers, and standpipe controls.

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15. Keep materials at least 36 inches away from electrical panels.
 16. If no sprinklers are present, piled materials must be kept at least two feet from the ceiling to permit use of hose streams.
 17. During vacations remove all trash and debris from inside the building. Shut off electrical power. Maintain only circuits necessary for activities. Shut off all heating equipment if the outside temperature permits.
 18. Do not allow smoking in "No Smoking Areas".
 19. Periodically check "No Smoking" areas for evidence of discarded smoking materials.
 20. Let cigarette butts grow cold in the ashtray before emptying them in the trashcan.

Exit ways, Hallways and Corridors will be maintained as specified in Appendix D20

The following procedures as specified in Appendix D20 are designed to ensure that halls and exits do not present a fire hazard and are maintained according to OSHA and State and Local Fire Code Regulations.

Public Assemblies

These procedures apply to all buildings or portions of buildings used for gatherings of 50 or more persons for such activities as entertainment, dining, amusement, lectures, seminars, etc.

1. Employees at places of assembly should be trained in emergency evacuation procedures and know the location of fire exits and portable fire extinguishers.
2. If evacuation is necessary in theaters and auditoriums, an announcement should be made over the PA system if available. The wording of the announcement should be established before the event and a specific person should be designated to make the announcement.
3. In theaters or auditoriums an announcement shall be made 10 minutes before the start of the program concerning the location of fire exits. Instead of an announcement the location of fire exits may be provided in the program literature if approved by the Fire Safety Engineer.
4. Enclosed flame devices may be used for ceremonies, theatrical performances, and the like, if approved by the Campus Safety Office. Open flames are not allowed.

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5. Candles may be used on tables for food services if securely supported on substantial noncombustible bases located in a way that avoids a danger of ignition of combustible materials. Candles must be continuously monitored.
 6. The storage or use of flammable liquids in assembly areas is prohibited.
 7. Stage settings made of combustible materials must be treated with flame retardant materials.

Electrical & Mechanical Equipment

Electrical defects, generally due to poor maintenance, mostly in wiring, motors, switches, lamps and hot elements are the number one cause of fires in industry. Fires in mechanical equipment are usually due to friction and contact with hot surfaces. Adhering to the following guidelines can prevent electrical and mechanical fires:

1. Use only Underwriter Laboratory (UL) or Factory Mutual (FM) approved equipment.
2. Install and maintain electrical equipment according to the National Electric Code.
3. Establish regular maintenance on equipment.
4. Ensure that extension cords are UL listed, suitable for the application, and only used as a temporary measure.
5. Use proper size and type of fuses. Do not by-pass fuses.
6. Ensure that terminal connections are clean and tight.
7. Use only approved equipment in hazardous locations where flammable vapors, liquids, gases, and combustible dust are present.
8. Do not store materials within three feet of an electrical panel.
9. Check your work area for frayed wires, ensure that electrical equipment is working properly.
10. When an electrical malfunction occurs always have it repaired as soon as possible.
11. Do not use temporary or makeshift wiring unless absolutely necessary.
12. Properly lubricate machinery.
13. Properly adjust and/or align machinery.

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14. Ensure that hot pipes are clear of combustible materials.
 15. Provide ample clearance around boilers, furnaces, and heaters.
 16. Keep soldering irons off combustible surfaces.
 17. Remove combustible dust and lint from bearings and shafting.
 18. Keep oil holes for bearings covered.
 19. Ensure that penetrations through fire walls, floors, or ceilings are fire stopped.
 20. Do not store combustible materials in mechanical storage rooms.

Smoking

Carelessly discarded smoking materials are a major source of fires. Smoking is prohibited in all buildings on campus with the exception of the Smoking Room in the Centennial Student Union. Also, smoking is not allowed in areas with high hazards such as wood working shops, garages, flammable liquid storage areas, and flammable gas storage areas. Matches and smoking materials must be discarded in a safe container prior to entering buildings.

CAMPUS HOUSING BUILDINGS

Prohibited Items

1. Firearm ammunition, hazardous chemicals, and explosives (including firecrackers) are not permitted in Campus buildings.
2. Motorized vehicles (motorbikes, mopeds, or motorcycles) may not be stored or parked inside buildings under any circumstances.
3. Flammable or combustible liquids such as gasoline, kerosene, charcoal lighter, turpentine, or similar substance may not be stored in any Campus housing unit.
4. The storage of excessive amounts of paper is prohibited.
5. Open or enclosed flame devices including kerosene lamps, stoves, candles, incense, or similar items are not permitted in Campus housing and offices.
6. Appliances with an open coil or that can bring oil to a boil are not allowed in the campus housing.

Appliances

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1. In the residence halls, several student rooms are wired into the same circuit. To prevent overheating of circuits and possible fires do not plug more than two appliances into an electrical outlet and use a surge protector with a circuit breaker.
 2. Extension cords are for temporary service only and cannot be used in place of permanent hardwiring. Cords must not be routed unsafely (under carpet, etc.). Spliced, taped, frayed, or undersized cords must not be used. Unsafe extension cords may be confiscated and disconnected. Generally, extension cords should be limited to use by maintenance personnel. Extension cords are not allowed in Residence Halls.
 3. Refrigerators are permitted in student rooms if they use less than 2.5 amps.
 4. The Department of Residential Life Reserves the right to restrict appliances that poses a danger to the residence halls. Specifically, the following items are not allowed: halogen lamps, halogen bulbs, charcoal grills, gas grills, microwaves over 600 watts, toaster ovens, freezers and appliances with an open heating element or open flame.
 5. Multiple plug adapters must be Underwriters Laboratory (UL) approved and have a built in breaker that has a maximum load of 15 amps, 3 wire, grounded. Cube taps are not permissible.
 6. Never leave an appliance unattended when it is plugged in.
 7. Residents are not to leave cooking food unattended.
 8. Use the appliance only for its intended purpose.
 9. Never use an appliance if it has a damaged cord or plug, is not working properly, or has been dropped or damaged.
 10. Never block the air openings of an appliance.
 11. Do not use an appliance where flammable liquid vapors, or aerosol products are being used.
 12. Coffee pots should have an automatic shut off. Coffee pots should be near a door so they can be seen as people walk out of the door.
 13. Dimmer switches and ceiling fixtures may not be installed.
 14. Light fixtures, outlets and switches are not to be altered or have items hung from their surfaces (e.g. can top rings or foil which may conduct electricity.)
 15. Ironing should only be done in the communal kitchens.

Space Heaters

Space Heaters are not authorized for use unless it is required by a medical condition. The requestor must provide written documentation of the specific need from their health care provider. This includes the temperature range for the individual.

The individual requesting the use of a space heater will notify the Chief Engineer, who will consult with engineering consultants, if necessary, to determine the specific modifications needed and will make the necessary facility modifications. If modifications can not satisfied the temperature range, the use of a space heater will be authorized.

1. Space heaters must be electric powered. Fuel powered (propane, kerosene) are not permitted.
2. Space heaters must be Underwriters Laboratory (UL) approved and have a tip-over shutdown switch.
3. Place space heaters at least three feet from combustible materials.
4. Turn off and unplug the heater when leaving the area.
5. Space heaters must have a thermostat that automatically shuts off when a certain temperature is reached.
6. Space heaters must be plugged directly into the wall receptacle. Extension cords are not allowed. The use of an extension cord that is not rated for your heater could cause a fire.
7. Place heaters on the floor. Never place on cabinets, tables, or furniture.
8. Beware of creating a tripping hazard. Do not place heaters in exits or walkways.

Holiday Decorations

For personal protection residents are urged to use good judgment in decorating rooms so that furniture, posters, fish nets, mobiles, etc., do not create potential fire hazards.

The increasing use and availability of combustible materials for decorations and displays can lead to serious fire hazards. To prevent the possibility of fires everyone is asked to cooperate in enforcing the following safety standards for decorations and displays. Highly combustible materials include paper and cloth of all varieties, plastics, and all vegetation. It does not include lumber, peg board, or paper mache. In order to reduce the potential for fires the following procedure should be adhered to:

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1. All decorations using combustible materials shall be treated with a flame retardant solution. The label on commercial decorations will indicate if the item has been flame proofed.
 2. No more than 20% of either side of the door may be decorated.
 3. Excessive use of flammable substances on walls is not permitted.
 4. Paper or other materials must be kept at least 12 inches away from any incandescent or fluorescent bulb. Improvised paper shades for lights are not to be used.
 5. All electrical equipment (such as lights, wires, plugs, connectors, sockets, etc.) must be UL (Underwriter's Laboratory) approved and in good condition. The use of cube taps and improvised wiring is prohibited. Extension cords are strictly prohibited.
 6. Open or enclosed flame devices (i.e., candles, kerosene or gasoline lanterns, torches, oil lamps, etc.) are not permitted in residence halls.
 7. No decorations or displays shall be erected in a way that blocks or obstructs an exit, exit lights, fire suppression equipment, or fire detection equipment. Decorations are prohibited in a means of egress. Do not hang decorations from the ceiling.
 8. The narrow corridor within the student room that leads to the doorway shall not be obstructed in any way. Furniture and other items shall not be placed near the doorway or impede exit from the room.
 9. To reduce fuel sources all materials should be promptly and properly disposed after the celebration is over or before leaving on holiday break.

Housekeeping

Good housekeeping practices can prevent fires, control the spread of fires in case of ignition, and avert injury during evacuation. The following describes several basic housekeeping requirements:

1. Provide sufficient waste receptacles and empty on a daily basis. Only metal or flame-retardant wastebaskets are allowed in student rooms.
2. Keep the accumulation of paper and flammables to a minimum.
3. Keep passageways clear of obstacles.
4. Do not store materials closer than 18 inches from a sprinkler head.

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5. Keep fire doors unblocked and do not prop open.
 6. Do not store materials in stairwells.
 7. Materials should never block fire extinguishers, sprinklers, and standpipe controls.
 8. During vacations remove all trash and debris. Shut off electrical power. Maintain only circuits necessary for activities. Shut off all heating equipment if the outside temperature permits.

Smoking

Carelessly discarded smoking materials are a major source of fires. Smoking is prohibited in all campus housing buildings on campus.

Matches and smoking materials must be discarded in a safe container prior to entering buildings.

Grilling

Open flame cooking devices as barbecue/roasting grills pits and camp fires are prohibited on university property unless used in conjunction with an approved university sanctioned event.

APPENDIX D12 FLAMMABLE LIQUIDS

Flammable liquids are among the most common occupational hazards found in the work place. Flammable liquids can easily vaporize and form flammable and explosive mixtures in air. The degree of hazard is determined by the flash point of the liquid, the concentration of the air-fuel mixture, and the availability of ignition sources. In addition, many flammable chemicals react violently with oxidizing compounds and may start a fire. The flammability properties of a chemical should be checked before a flammable liquid is used. The danger of fire and explosions can be eliminated or reduced by strict handling, dispensing, and storage procedures.

Safety Procedures

Ventilation.

Ventilation is essential to prevent the buildup of vapors that could lead to fires and explosions. Vapors must be controlled by confinement, local exhaust, or general room ventilation. Ventilation systems should be designed to keep the vapor concentration below 25% of the lower flammability level. Room ventilation should be adequate to prevent the accumulation of dangerous concentrations of vapors if only very small quantities are released.

Ignition sources.

Flammable liquids should never be heated with an open flame. Containers should always be kept closed to reduce the possibility of flammable vapors contacting an ignition source. When flammable liquids are used, all unnecessary ignition sources should be removed. Ignition sources include open flames, non-explosion proof electrical equipment, hot surfaces, and static sparks.

Smoking.

Smoking is prohibited in areas where flammable liquids are used or stored.

Fire extinguishers.

Appropriate fire extinguishers must be located in work areas using flammable liquids.

Warning signs.

"No Smoking" and "Flammable Liquids" signs shall be prominently posted in areas where flammable liquids are used or stored.

General storage.

Flammable liquids should not be stored near heat, ignition sources, powerful oxidizing agents, or other reactive chemicals. Flammable liquids should not be stored near an exit, stairway, or any area normally used for the safe egress of people. Storage in glass bottles should be avoided if possible. If glass must be used, the bottle should be protected against breakage. The quantity of flammable liquids should be limited to what is immediately needed. As much as possible of working quantities should be stored in safety cans. Flammable liquids should not be stored above eye level. Store solvent soaked rags in closed metal containers and empty frequently.

Flammable Storage Cabinets.

Quantities of flammable liquids greater than 10 gallons must be stored in flammable storage cabinets, approved safety cans, or a properly designed flammable storage room. Approved storage cabinets are designed to protect flammable liquids from involvement in an external fire for 10 minutes. All cabinets must comply with OSHA and NFPA requirements. Metal or wooden cabinets may be used if they comply with thickness and construction specifications. Maximum storage limits for flammable liquids in approved storage cabinets are 120 gallons. Of this total, only 60 gallons of Class I and Class II liquids are allowed. No more than three such cabinets may be stored in a fire area. Storage cabinets are not required to be vented. Venting a cabinet may defeat the cabinet's purpose of protecting the contents from involvement in a fire for 10 minutes. Cabinets must be labeled in conspicuous lettering "Flammable-Keep Fire Away."

Safety Cans.

Portable approved safety cans, can be used to safely store, carry, and pour flammable and combustible liquids. The main purpose of the safety can is to prevent an explosion of the container when it is heated. Safety cans, must be UL listed and FM approved, and properly labeled to identify contents. All approved cans, must have a lid that is spring loaded to close automatically after filling or pouring. The lid also acts as a relief valve when pressure builds up in the can. A flame arrestor screen must be inside the cap spout to prevent fire flashback into the can.

Refrigerators.

Flammable solvents must not be stored in standard refrigerators; explosions may result from the ignition of confined vapors by sparking electrical contacts. These refrigerators should be posted as unsafe for storage of flammable liquids. Only explosion-safe or explosion-proof refrigerators may be used. Explosion-safe or flammable storage refrigerators have been modified to eliminate the spark producing mechanisms. Explosion-proof refrigerators not only protect against flammable vapors inside the unit, but may also be used in rooms that have an explosive atmosphere. These units must be permanently wired to the electrical system.

Container size.

Flammable and combustible liquids must be stored in appropriate containers according to their classification. Containers of flammable and combustible liquids are limited to the following sizes:

Class	Glass or Plastic	Metal (non DOT)	Metal (DOT)	Safety Cans
Class IA	1 pt	1 gal	60 gal	2 gal
Class IB	1 qt	5 gal	60 gal	5 gal
Class IC	1 gal	5 gal	60 gal	5 gal
Class II	1 gal	5 gal	60 gal	5 gal
Class III	1 gal	5 gal	60 gal	5 gal

Inside storage rooms.

Bulk quantities of flammable liquids, such as 30 or 55 gallon drums, must be stored in properly designed indoor storage rooms or outside storage areas. Indoor storage rooms containing flammable and combustible liquids must meet the requirements of OSHA Standard 1910-106(d). These standards include spill control measures, spark-proof electrical fixtures, fire suppression equipment, and ventilation requirements.

Electrical grounding.

Transferring liquids from one metal container to another may produce static electricity sparks capable of igniting the flammable vapors. To discharge the static electricity, dispensing drums should be adequately grounded and bonded to the receiving container before pouring. Bonding between containers may be made by means of a conductive hose or by placing the nozzle of the dispensing container in contact with the mouth of the receiving container. If the container cannot be grounded, then the liquid should be poured slowly to allow the charge time to disperse.

Spills.

Appropriate spill kits should be available in work areas using flammable liquids. Materials should absorb the solvent and reduce the vapor pressure so that ignition is impossible. **Notification of Campus Security Department at 2111 is mandatory on all spills. Appropriate evacuation procedures will be followed on all spills.**

Transportation.

Flammable solvents should be transported in metal or other protective containers.

APPENDIX D13 FLAMMABLE GAS CYLINDERS

Compressed gas cylinders are especially dangerous because they possess both mechanical and chemical hazards. Due to the large amount of potential energy resulting from compression of the cylinder, gas cylinders should be handled as high-energy sources and as a potential explosive. In addition, the gases contained in the cylinders are hazardous because of flammable, toxic or corrosive properties. The most common hazard associated with gas cylinders is leakage from regulators that can allow the gas to diffuse throughout the room. Flammable gases can mix with the air and present fire and explosion risks.

Identification.

The contents of compressed gas cylinders must be clearly identified and bear the appropriate Department of Transportation (DOT) hazard label. Labels should not be removed or defaced. If the labeling on a cylinder becomes defaced, the cylinder should be marked "contents unknown" and returned to the manufacturer.

Transportation.

Manual transportation of cylinders should always be done with a hand truck. Cylinders should be securely fastened with a strap or rope. The valve cap must be in place. Cylinders should never be lifted by the valve cap or dragged, rolled, dropped, or permitted to strike hard objects or another cylinder.

Training.

Persons who handle flammable gas cylinders should be adequately trained in the physical and chemical properties of the gas and the proper methods to use the cylinders.

Storage.

Cylinders shall be stored upright where they are unlikely to be knocked over, or secured by a heavy chain, strap, or base support. Cylinders cannot be stored in stairwells or within a required exit corridor. The valve protection cap must always be in place when the cylinder is not being used. Cylinders should never be stored on their sides or near a heat or ignition source. Storage areas shall be posted with the name of the gases stored, well ventilated and dry. Storage rooms should be of fire resistive construction. Temperatures shall not exceed 130 degrees F. Containers shall not be stored near readily ignitable substances such as gasoline, waste, or bulk combustibles.

Flammable gas cylinders stored inside occupied buildings shall be separated from flammable liquids, highly combustible materials, and oxidizing cylinder by at least 20 ft. or a 5 ft. high wall with a 2-hour fire rating. Flammable gas cylinders in storage and in use should be kept away from arcing electrical equipment, open flames, or other sources of ignition. Adequate portable fire extinguishers shall be located in storage and use areas

and "No Smoking" signs posted. Hydrogen gas systems shall not exceed 400 cubic feet unless the Campus Safety and Security Office has approved the system.

Outdoor storage.

Cylinders may be stored outdoors if adequately protected from the weather and direct sunlight. It is recommended that cylinders be stored under a non-combustible canopy and protected from the ground by a concrete pad.

Hot Work Program Policy Minnesota State University, Mankato

I. PURPOSE

The purpose of this policy is to establish guidelines to ensure that portable cutting, welding, and other hot work for maintenance, construction, or modification is conducted with sufficient safe guards to prevent fires. Heat sufficient to start a fire may come from an open flame of a torch, metals being welded or cut, molten slog or metal that flows from the work area, sparks that fly from the work, and improperly handled, or improperly applied grounding clamps during arc welding.

II. RESPONSIBILITIES

A. Facilities Management

1. Approve policy and any necessary revisions.
2. Oversee implementation of plan.

B. Environmental Health and Safety and Risk Management Director

1. Develop, advise implementation, and maintain the Hot Work Program Policy.
2. Train managers, supervisors, and employees on the requirements of the Hot Work Program Policy
3. Conduct Hot Work Program Policy inspections to ensure that proper procedures are being followed.
4. Coordinate with managers/supervisors to ensure that corrective actions are taken on deficiencies noted during the inspections.
5. Ensure that contractors conducting work on Minnesota State University, Mankato property establishes or utilizes a hot work policy as effective as ours.

C. Other Departments

1. Ensure that personnel under their supervision understand the Hot Work Program Policy.
2. Follow the guidelines of the Hot Work Program Policy.
3. Take immediate corrective actions when discrepancies are noted.

D. Managers/Supervisors

1. Ensure that all personnel under their supervision understand the Hot Work Program Policy.

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2. Conduct pre-inspection of work area to ensure safety precautions and requirements are met.
 3. Issue Welding and Burning Permits to their staff.
 4. Ensure that adequate staffing is available.

E. Employees

1. Follow the guidelines of the Hot Work Program Policy.
2. Take immediate corrective actions when discrepancies are noted.

F. Contractors

1. Follow Minnesota State University, Mankato Hot Work Program Policy or implement a program that is as effective as or more effective than ours.
2. Take immediate corrective actions when discrepancies are noted.
3. Conduct periodic inspections to ensure employees are following the Hot Work Program Policy.

III. Hot Work Program Requirements

A. Basic precautions for fire prevention in welding and cutting work areas:

1. A **Hot Work Permit** (Attached) shall be filled out for each work job and kept available at the job site.
2. **Fire Hazard Removal.** If the object to be welded or cut cannot be moved, all movable fire hazards in the vicinity should be taken to a safe place away from the area (at least 35 feet).
3. **Guards/Welding Blankets.** If the object to be welded or cut cannot be moved, and all fire hazards cannot be moved, then guards shall be used to confine the heat, sparks, and slag and to protect the immovable fire hazards. Approved welding blankets are to be used to cover combustible material.
4. **Automatic Sprinkler Protection.** If hot work operations are to be conducted in a building protected by automatic sprinklers, it must be verified that the sprinkler system is in service before conducting any hot work operations.
5. A **Fire Watch** when required shall be continuously present during the entire hot work activity and 30 minutes after completion. In addition, the work area shall be monitored every 30 minutes for 4 hours after the welding and cutting is complete. Note: To ensure the area is monitored for four hours after welding, the following employees maybe be used to perform checks on the welding location. Night time repairman, GMW's, and Security, can be used to perform the checks. Please make contact

with staff early to ensure they are available to monitor hot work permit site. If some one can not monitor the site for the required time, the Hot Work Permit will not be issued. A fire watch may not be required in mechanical rooms and tunnels per section III D 4.

6. **Restrictions.** If the requirements listed above cannot be followed, welding and cutting should not be performed.

B. Permit Process

1. Facilities Operation's Authorized Personnel and designated Centennial Student Union Personnel shall only issue permits to the individual performing the actual cutting or welding operation.
2. Permits shall be issued and logged on a job-to-job basis.
3. No permit shall be issued for a general work in any location. Note: Hot work permits are not required for those areas specifically designated for such work such as welding shops located in maintenance or instructional area.
4. Each specific job shall be issued a separate permit.
5. Once issued, the permit shall be posted in a conspicuous location near the work site so that it may be observed during welding or cutting operations.
6. Permits shall not be approved for any length of time exceeding the normal shift hours of the welder or cutter except:
 - a. When the same welder or cutter will be performing the work into the next shift.
 - b. When emergency repair work warrants the continued operation of cutting and/or welding into the next shift.
7. All permits shall be returned to the authorizing authority when work is completed.

C. Fire Alarm System

1. The person receiving the permit shall notify the Electronic Technician in charge of fire alarms, so fire alarms may be turned off or silence in the hot work area.
2. The Electronic Technician will inactivate the fire alarm system during the welding if appropriate.
3. The Electronic Technician shall notify security that the alarm was deactivated and when the alarm will be reactivated.
4. The Electronic Technician shall notify security if the alarm is not turned off, when hot work activity may result in an alarm.

D. Authorization

1. Authorization shall be obtained from a Supervisor or Manager in Facilities, designated personnel in the Centennial Student Union, or the Environmental, Health, Safety, and Risk Management Director.
2. Authorization shall not be given for hot work operations until all safety precautions and requirements listed on the permit are met.
 - a. Under no circumstances is a permit to be issued sight unseen.
 - b. An inspection of the work site must be conducted by the authorizing person prior to commencement of work.
3. Authorization shall not be granted for hot work operations if:
 - a. The welder or cutter is not properly trained in welding or cutting operations (as determined by the authorization person.
 - b. Fire Watch is not identified and present at the work site.
 - c. If welding or cutting equipment is not in proper operating condition and free from defect or damage.
 - d. If the authorizing individual feels that the operation may jeopardize the safety and welfare of workers, residents, and or students and staff in the vicinity of the work area.
4. **Mechanical Rooms and Tunnels.** A Welding and Burning Permit shall be filled out for these locations, but a fire watch may not be required in all circumstances. If the mechanical room or tunnel does not contain any flammable or combustible material in the area the supervisor may determine that a fire watch is not needed.
5. **Designation of Temporary Hot Work Areas.** An area where extensive hot work will be conducted may be designated as a Temporary Hot Work Area if all combustible material has been removed from the area. An inspection of the area will be conducted by the supervisor and EHS Director and an Initial Welding and Burning Permit will be completed. A temporary Hot Work Area sign will be placed in the area, if all requirements have been met. Employees will be instructed to keep all combustible materials out of the work area and to perform daily inspections of work area.
6. All Welding and Burning permits shall be returned to the Environmental, Health, Safety, and Risk Management Department so they can be logged.

IV. WELDING and BURNING PERMIT

(Work is not permitted unless this card is filled in and posted in work area.)

Date _____ / _____ / _____ Time _____ AM
PM

Building _____

Dept. _____ Floor _____

Work to be done _____

Special Precautions _____

Fire Watch Required? _____

The location where work is to be done has been examined by me, the necessary precautions taken (see back of permit) and permission is granted for this work.

Permit Expires _____ / _____ / _____ Time _____ AM
PM

Signed _____

Individual Responsible for Work Authorization (Facility Manager)

Time Started _____ Completed _____

FINAL CHECK

(where fire watch is required)

- Fire protection system(s) in service (sprinklers, CO2, foam).
- Cutting and welding equipment in good condition.
- Floor/ground clean (and wet down when necessary).
- Combustibles at least 35 feet from welding area.
- Flammable liquids and other hazards removed from area.
- All floor and wall openings within 35 feet covered.
- Non-combustible covers used to protect nearby combustibles and equipment.
- Containers, tanks, ducts, and other enclosures cleaned and purged of flammable vapors, liquids, dusts, and other hazardous materials.
- Fire extinguishers or small standpipe fire hose provided.
- All hazardous operations discontinued in area.
- Fire watch should be present during and at least one-half hour after welding or burning has ceased.
- Location of nearest fire alarm box identified.
- Fire Alarm Electronic Technician notified (X2071), so fire alarms can be notified about fire silence or turned off. Also, Security (X2111) will be notified about fire alarm status.

When possible, do work in a non-combustible area.

An individual should be assigned to watch for dangerous sparks in the area and the floor below.

Work area and all adjacent areas where sparks might have spread were inspected continuously during the entire time cutting, welding or other hot work was conducted and 30 minutes after completion. In addition, the work area was monitored every 30 minutes for four (4) hours after the cutting, welding or other hot work was completed and no fire conditions noted.

Signed

All completed forms will be sent to the EHS Office at WC111 or Faxed to 389-5862.

APPENDIX D15 HOT WORK OPERATIONS

(SEE Appendix D15A - Hot Work Program Policy, Minnesota State University, Mankato)

To Provide Guidance and Direction on the fire hazards relating to welding, cutting, soldering and other similar operations on campus.

Because cutting and welding equipment is portable, it brings fire hazards into areas not designated nor protected for fire hazards. Often the area near the operation has not been inspected for fuel load. Fires can be started with the generation of high temperatures from the torch and flying hot metal. All of this can be eliminated with a hot works permit system. The purpose of a hot works permit is to limit fire hazards by establishing safe working procedures. After the work is finished, the permit is returned to the department that issued the permit.

Definitions:

- Hot work operations include cutting, welding, use of open torch, brazing, glass blowing and similar operations.
- Hot work area is that area which is expose to sparks, hot slag, or radiant or convection heat as a result of the hot work
- Hot work equipment is electric or gas welding or cutting equipment used for hot work.

Hot Work Site Inspection

A minimum 2-A, 20 BC rated fire extinguishers shall be located within 30' of the location where the work is in progress and shall be accessible without climbing stairs or ladders.

The Campus EHS Office may require water hose line to be readily accessible.

Do not cut, weld, or use other flame or spark producing equipment unless the following precautions have been taken:

1. A hot work permit has been completed and posted at the work site.
2. An appropriate fire extinguisher is readily available.
3. Floor, walls, and ceiling are clear of flammable and combustible materials within 35 feet of the work area or the surface has been covered with a fire retardant cover.
4. Floor openings within 35 feet are tightly covered.
5. All equipment has been inspected and is in good working order.

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6. The sprinkler system, where provide, is in service.
 7. Smoke detectors have been prevented from alarming.
 8. The nearest manual pull station has been located.
 9. A responsible fire watch has been assigned to watch for dangerous sparks in the area while the process is being performed.
 10. The fire watch will remain on the job site for 30 minutes after completion of the job and half hour inspections of work site are conducted for 4 hours after completion of the job.
 11. For confined spaces, ensure that appropriate monitoring has been done before entry, mechanical ventilation has been provided, and rescue equipment is available.
 12. Gas tanks are not taken into a confined space.

Construction Areas

Contractors can follow their own company's policy for hot work or they can use the university policy for hot work.

Construction Area Responsibility

It is the responsibility of the contractor or university employees engaged in any construction or remodeling projects to maintain the area in a fire safe condition.

1. Fire Department access shall be maintained to the construction site at all times.
2. Accumulations of combustible waste materials, dust and debris shall be removed from structures and their immediate vicinity at the end of each work shift or more frequently if necessary for safe operations.
3. Contractors, subcontractors and physical plant employees are responsible for notifying Campus Dispatch anytime fire protection equipment is taken out of service.
4. For non - Minnesota State Colleges and Universities employees working on a campus project(s), the Campus Safety and Security Office must be given a list of emergency and non-emergency contact numbers. This includes all construction projects.

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5. When the contractor is working in occupied buildings, they must exercise extreme caution when using any equipment requiring flammable liquids or any type of cutting and welding. Fire Guards are required for 30 minutes after any cutting or welding work takes place and every half hour an inspection of the work area for 4 hours after work has been completed.
 6. Dumpsters must be kept a minimum of 10' from any building opening. Dumpsters must be emptied regularly.

APPENDIX D16 FIRE DRILLS AND EVACUATIONS

General

Fire evacuation procedures are a vital part of a comprehensive campus fire safety program. Fire drills are held to familiarize occupants with drill procedures and to make the drill a matter of established routine. Providing well-marked exits does not ensure life safety during a fire or emergency. Exit drills are needed so that occupants will know how to make an efficient and orderly escape. Before a fire, occupants should:

1. Know the location of the fire alarm pull stations and how to activate them.
2. Know the location of two exits.
3. Know the location of and how to use fire extinguishers.
4. Post the phone numbers of the campus Security near their phone.
5. Report any tampering or malfunction of fire protection equipment to the Resident Director or the Campus Security Office.
6. Know the location of the predetermined assembly point.
7. Keep fire doors closed.

Residence Halls

Training.

During the Fall Staff Workshop, each Resident Director will meet with the Resident Assistants about fire warden duties in their particular hall. The fire warden's duties and responsibilities, and evacuation routes for that particular hall will be explained. The Residence Hall Staff will undergo a series of fire alert training sessions conducted by Campus Safety Office and Resident Director(s) during the fall workshop. Students will be informed of proper fire safety measures and hall evacuation procedures at hall meetings during the first week of Fall Semester.

Drills.

Fire drills in the residential halls are conducted at least three times per year by the Resident Director in cooperation with the Campus Safety Office, Campus Security Office and the Local Fire Department. The Resident Director will issue a report to the Campus Safety Office after the drill is completed. The Resident Director will notify the Campus Safety Office and Campus Security Office, at least one day before the fire drill. Personnel will be assigned to check exits, search for stragglers, count occupants once they are

outside, and to control reentry into the building. Drills will be conducted under varying conditions (e.g., blocking a fire exit) and unexpected times to help simulate the actual conditions that may occur in a fire. Emphasis will be placed upon orderly evacuation with proper discipline rather than speed. Any person who fails to immediately evacuate the Residence Halls during an alarm will be judicially charged with failure to vacate. After the drill, a meeting will be held to evaluate the drill and to solve any problems.

Evacuation Plans.

Evacuation plans shall be posted on all floors of a Residential Building. The plans are conspicuously located and updated as needed by Residential Life and reviewed by the Campus Safety Office.

Procedures for Reporting a Fire

The person who first discovers a fire should do the following:

1. Pull the nearest fire alarm station to alert residents. An alarm will automatically sound in the Campus Safety and Security Office and in some cases will be transmitted to the local fire dispatch center.
2. Alert ALL persons in your area as you exit.
3. Remove any person in immediate danger.
4. Call the Campus Security Office at 2111 or call the fire department at 9-(9-1-1). Give the location and description of the fire.
5. If the fire is small, and if you have had training, use the proper type of fire extinguisher to extinguish the fire. Do this only after the evacuation has started and the Fire Department and Campus Security Office have been called.
6. If you cannot put out the fire, close all doors and exit by the nearest safe exit. Go to the assigned assembly point.
7. DO NOT USE ELEVATORS

Procedures for Exiting

1. Close windows and doors, leave the door unlocked, wear a coat and shoes, and take a towel to place over your face in case of smoke. It is not mandatory that you leave your room unlocked, but highly encouraged to provide the fire department access without damaging the door.
2. Feel the doorknob with the back of your hand before opening any door. If it is hot do not open the door. Brace yourself behind the door, crouch low, and open the

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- door lightly if it is warm. If heat or heavy smoke is present, close the door and stay in your room. Stay low to the floor.
3. Exit the building as calmly and quickly as possible using the nearest safe exit. **DO NOT USE THE ELEVATOR.**
 4. Alert ALL persons in your area as you exit.
 5. Proceed to the assigned assembly area. Remain outside until the appropriate signal is given to re-enter.
 6. If your clothing should catch on fire, **DO NOT RUN.** Place your hands over your face, drop to the ground and roll to smother the flames.
 7. Building and/or floor wardens will assist in the evacuation of the floor, close all doors, keep all persons at a safe distance from the building, and direct the fire department to the scene of the fire.
 8. If the Local Fire Department responds, they will assume control of the building. Full cooperation must be given to the Fire Department by students and staff.
 9. The Resident Director will submit a report of the fire to the Director of Housing and the Campus Security Office within 24 hours of the fire.

Emergency Procedures

1. If you cannot safely leave the room, seal the cracks around the door with wet towels. Call the Campus Security Office at 2111 or call 9 (9-1-1) to report your location.
2. Open the window a few inches for fresh air and hang a brightly colored cloth or bed sheet out the window to alert the Fire Department of your location. If you have a flashlight use it to signal with at night.
3. If smoke gets in your room, keep low and dampen a cloth with water, place it over your nose and breath lightly through it.
4. Stay calm. Do not jump from windows above the second floor. Rescue personnel have the proper equipment to get to you quickly.

Non Residential Buildings

Training.

Each department is responsible to train their personnel in fire evacuation. The Campus Safety Office will assist in training campus personnel in fire evacuation procedures when requested.

Drills.

Fire drills in academic buildings are conducted twice per year for each academic building. All staff will be familiarized with the fire safety plan immediately upon assignment to their work area.

Procedures

1. Pull the fire alarm if available and call the Campus Security Office at 2111 or the fire department at 9 (9-1-1).
2. Evacuate the building as calmly and quickly as possible going to the nearest safe exit. Alert all persons in your area.
3. Campus staff will assist in the evacuation of the building by directing occupants to the nearest usable exit. They will be trained in the proper use of fire extinguishers, the location of fire alarm pull stations, and will know the location of all approved exits.
4. If the fire is small, campus staff may attempt to put the fire out using the proper fire extinguisher, but only after the building has been evacuated and the Fire Department and Campus Security Office have been notified.

Evacuation Plans

Evacuation plans for non-residential buildings will be posted in all classrooms and hallways. The plans show the locations of fire extinguishers, fire alarm pull stations, and fire exit doors. The plans are conspicuously located and updated as necessary by the Campus Safety Office. At the beginning of each semester it will be the responsibility of the faculty to go over the floor plans with each class, and direct occupants to the nearest safe exit in case of an actual alarm. It is recommended that emergency evacuation route be placed in the syllabus for the class.

APPENDIX D17 LOCAL FIRE DEPARTMENT ACCESS

Fire Lanes

Proper access to all facilities is important to ensure a timely response to all emergencies. Fire lanes have been established throughout the campus to allow the Local Fire Department to gain access to buildings when responding to emergencies.

These fire lanes are posted and must be kept clear at all times. No non-emergency vehicles are allowed to park on the fire lanes under any circumstances.

The Campus Safety Office and the Local Fire Chief reviews all plans for building construction work areas, trailer locations and fencing changes to ensure proper access.

Building Access

Campus facilities are/shall be equipped with Knox Boxes to allow the Local Fire Department access to the buildings after hours. The Knox Boxes are supposed to contain all the master keys necessary to enter every room in the building.

It is the responsibility of all Campus personnel to ensure that the fire department has access to all areas. This means no special locks or keys being installed. If you need a lock or key change, contact the Campus Security Office at X2111 for assistance.

If the fire department does not have access to a room they may have to utilize forcible entry, which can cause a considerable amount of damage to the door. If occupants have installed special keys or locks, they will be responsible for all costs associated with the repair and/or replacement of the door.

APPENDIX D18 SAFE REFUGE DURING AN EMERGENCY FOR INDIVIDUALS WITH DISABILITIES

In an emergency, evacuation of the immediate area and/or building may be difficult for individuals with disabilities. This plan is to offer guidance and assistance when evacuation is not possible.

Exit

It is the campus policy to have all building occupants evacuate any campus building upon activation of the building's fire alarm system. Failure to do so can result in fines and criminal prosecution.

Area Of Safe Refuge

There will be some cases when outside conditions are extreme, and/or in the case of individuals with limited mobility, (especially due to the fact that elevators will not be available), evacuation to an area of safe refuge may be necessary. These areas fire rated stairwells that are at least one fire barrier from the potential hazard AND closer to the ultimate exit point. If at all possible, notify the Campus Security Office at X2111 of your location. In most cases Fire - Rescue personnel will NOT immediately initiate rescue; as the first attempt will be to remove the source of the threat i.e. put out the fire and remove the smoke. As secondary resources arrive they will make contact with the individual(s) in the area of safe refuge and advise them as to any further actions that may be required.

Hazards	Safe Refuge Area	Evacuation
Fire	Sprinklered room/area near exit. Stairwell landing.	Use nearest smoke free area with doors and a phone and exit . Do not use elevator
Earthquake	Keep away from windows & wall hazards. Under desk or table if possible	Use nearest exit Do not use elevator
Power failure	Area with windows and/or emergency lighting (most exit hallways).	Use nearest lighted exit Do not use elevator
Chemical Spill	Separate room from spill area with Ventilation (Lab Accident)	Use nearest exit.
Bomb Threat	As directed by Security/Police	Use nearest exit
Severe Weather	Keep way from windows, or center of building (wind storm)	Use nearest exit Do not use elevator

Responsibilities

To insure emergency evacuation procedure works when needed the following responsibilities to this plan are identified:

Campus Facilities

1. Provide adequate signaling devices (fire alarm and strobe lights to code)
2. Provide adequate exit signage and lighting
3. Designate areas of safe refuge for those who may have difficulty evacuating immediately
4. Make available printed procedures of this plan and required actions.

Individual Staff and Students

1. Be familiar with emergency evacuation plan.
2. Know your building layout.
3. Be familiar with least two, exit pathways.
4. Request assistance when necessary.
5. If located in a safe refuge area contact Campus Security Office at X2111 to let them know your location.

APPENDIX D19 LIVE FIRE TRAINING

NOT APPLICABLE TO MINNESOTA STATE UNIVERSITY, MANKATO

APPENDIX D20 EXIT, STAIRWELL, HALLWAY, CORRIDOR FIRE SAFETY GUIDELINES

Exits, stairwells, hallways and corridors are intended to provide a safe and adequate means by which occupants may exit the building and emergency personnel may access the building during an emergency. Corridors and other means of egress must be free of obstructions. Only storage, items, and processes that conform to this appendix are permitted on a temporary or permanent basis.

Items in stairwells, blocking exit doors, restricting corridors, or blocking fire emergency equipment constitute serious fire and life safety hazards and violations of the State Fire Prevention Code.

The following **items are subject to immediate removal or correction** by the Physical Plant personnel, Campus Safety, and Campus Security Office personnel. Building occupants will be notified of violations.

1. Any items located within a stairwell or stair enclosure.
2. Any items that restrict the width of any portion of a exit, hallway, aisle or corridor to less than 44 inches.
3. No aisle, exit access, or stairway in a place of occupancy shall be obstructed with tables, showcases, filing cabinets, coat racks, or other obstructions to reduce its required width as an exit way during the hours the facility is open to employees and the public.
4. Any items that obstruct fire emergency equipment (fire alarm pull stations, sprinklers, fire extinguishers, etc.).
5. Any items that are determined to be an immediate fire or life safety hazard.
6. Any devices that are holding fire doors in an open position or restricting doors from operating.
7. All exit doors, including exits with multiple doors, shall be unlocked and operable when the building or a portion of the building, served by the exit, is occupied. Exit doors shall swing with exit travel.
8. Fire doors separating stairwells from hallways, or smoke partition doors are to be equipped with self-closing mechanisms or automatic release hold-open devices and must be maintained in working order. They are never to be blocked, wedged or tied open.
9. Storage or manipulation of ALL chemicals and radioactive materials.
10. Storage or use of compressed gas cylinders.
11. Bicycles and gasoline-operated vehicles are not permitted in hallways, stairwells, or on sidewalks immediately next to exits.

The following **items and processes are not acceptable** in any corridor, hallway, exit area or elevator lobby. A removal plan must be submitted to the facilities management office within 48 hours for items that cannot be removed or corrected immediately. Unacceptable items are subject to removal by Physical Plant personnel, Campus Safety and Campus Security Office personnel within 5 days after the violations are observed. Building occupants will be notified of violations.

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1. Storage of any kind within 8 feet of exit doors and stairwell doors (except Facilities Management approved recycling containers).
 2. No obstructions of any kind shall be placed in front of or upon any fire escape, balcony, or other exit intended for egress from a fire.
 3. The area immediately outside building exits shall be maintained free of material at all times.
 4. All exits shall be marked with a readily visible sign. Doors, passages, or stairs that could be mistaken for an exit must be marked with a sign stating "Not an Exit."
 5. Permanently attached lockers, bulletin boards, display cabinets, etc. may be permitted in some hallways, subject to the approval of the Campus Safety Office. Transparent covers on bulletin boards and display cabinets must be safety glass or non-splintering material.
 6. Storage of any kind, or use of office or laboratory equipment in hallways is not permitted.
 7. Storage of materials on stairs, landings, or under stairs is strictly prohibited.
 8. Stairways, hallways, and other exit ways including the exterior open spaces to or through which exits lead, shall be kept adequately lighted at all times when the building is occupied.
 9. Lighting shall provide at least 1.0 foot candles on walking surfaces.
 10. Emergency lighting should be provided for exit floor illumination in case of failure of normal lighting.
 11. Any item which obstructs utility panels, utility valves, or electrical receptacles.
 12. Laboratory procedures, which involve transfer or processing of an infectious agent, potentially infectious agent, radioactive material, or chemical.
 13. Manipulation of biological agents or toxins, which are assigned to Biosafety Level 2 or higher.
 14. Equipment which would present significant hazards under routine or emergency conditions, such as equipment that uses volatile materials or hazardous chemicals, equipment that may produce steam, excessive heat or aerosols, or equipment with unguarded belts, pulleys and/or gears. Examples of this type of equipment includes, but is not limited to; scintillation counters, electrophoresis equipment, autoclaves, pumps, incubators, and centrifuges.
 15. Any items which move easily or could fall over and cause an obstruction.
 16. Unapproved workstations (including copiers, office equipment, coffee stations, desks), break areas, and waiting areas.
 17. Furniture that contains polyurethane foam or other types of combustible padding or stuffing.
 18. Combustible materials outside of enclosed cabinets. This includes journals, papers, books and boxes.
 19. Recycling materials outside of Facilities Management approved recycling containers.
 20. Any item or combination of items in a quantity that presents a fire or life safety hazard.

APPENDIX D21 GUIDELINES FOR THE USE OF TENTS

The following guidelines are based on the requirements of the State Fire Prevention Code. Assistance in using these guidelines and meeting the requirements of the State Fire Prevention code is available from the Office of The Chancellor, Fire/EMS/Safety Center.

- V. Fire/EMS/Safety Center**
- VI. 1450 Energy Park Drive**
- VII. Suite 100-B**
- VIII. St Paul, MN 55108**
- IX. (800) 311-3143**
- X. 651-649-5454**

Inspection

1. The local or State Fire Marshal's Office may inspect any tent to determine compliance with the State Fire Prevention Code.
2. Any violations of the local or State Fire Prevention Code must be corrected prior to the use of the tent, or immediately if discovered during the event.
3. In order to comply with the requirements of the local or State Fire Prevention Code, it is necessary for the local or State Fire Marshal's Office to make certain approvals as noted in these guidelines.

Flame Resistance and Structure

1. All tent fabric must be flame resistant.
2. A copy of tent structural material certificate or other proof of approval by a testing laboratory is acceptable as evidence of the required fire resistance. A copy of the certificate must be provided to the local or State Fire Marshal's Office upon request. These certificates should be available from the tent supplier.
3. Tent suppliers must be able to certify that tents have been erected in accordance with manufacturer recommendations, industry standards, and code requirements.

Floor Coverings

1. The area enclosed by any tent and not less than 20 feet outside of such tent, must be cleared of all flammable or combustible material or vegetation. Prior to erecting the tent. The premises must be kept free from such flammable or combustible materials during the period for which the area is used. IFC 2406.4
2. No hay, straw, shavings, or similar combustible materials are permitted within any tent unless they have been treated to make them flame retardant. A certificate or other proof of approval by a testing laboratory indicating that the material has been properly treated is acceptable as evidence. IFC 2406.4 prohibits all straw, hay, etc. when used as place of assembly.
3. A copy of floor covering certificates must be provided to the local or State Fire Marshal's Office prior to placing the material within a tent. These certificates are available from the material manufacturer or supplier.

Exits and Occupant Load for Enclosed Tents

1. Tents that have sides attached and rolled up are capable of being enclosed and must meet these requirements even if it is intended for the tent to remain unenclosed during the event.
2. The number of separate exits required for enclosed tents is based on the floor area of the tent. The maximum number of occupants, called the occupant load, is also based on the floor area of the tent.

Occupant Load (<i>floor area of tent</i>)	Number of Exits (minimum)
49 (<i>343 sq ft</i>) or less	1
between 50 (<i>350 sq ft</i>) and 599 (<i>4,193 sq ft</i>)	2
between 600 (<i>4,200 sq ft</i>) and 999 (<i>6,993 sq ft</i>)*	3
more than 1000 (<i>7,000 sq ft</i>) may be needed)	4 (more exits)

Note: This section will change when Minnesota adopts the IFC – see IFC Section 2410.2

3. The occupant load is decreased when tables and chairs are used (banquet style) – the number of required exits remains the same because exits are based on floor area. The following calculation will determine the occupant load with tables and chairs:

net square footage of tent floor area / 15 = occupant load with tables and chairs

Example: The number of occupants allowed, with tables and chairs, in a 50'X50' tent with a 10'X20' stage.

2,500 square feet (floor area) – 200 square feet (stage area) / 15 = 153 persons

PLEASE NOTE: These calculations are for planning purposes only and do not represent a legal capacity. The local or State Fire Marshal's Office will provide legal capacities based on submitted set-up plans.

4. Each exit must be provided with an exit sign. The word "EXIT" must be plainly legible in letters at least 6 inches high and with strokes not less than 3/4 inch wide. If the tent is to be occupied after sunset, emergency lighting must be provided. In most cases, the tent company can provide exit signs and emergency lighting.

Exit Requirements for All Tents

1. The minimum width of an exit must not be less than 72 inches.
2. Guy wires or guy ropes must not cross an exit at a height of less than 8 feet.
3. Where tents are placed near fences or other obstructions, a clear exit path must be maintained to an area sufficiently away from the tent.
4. Tent stakes must be railed off, capped, or covered.

Fire Protection

1. One portable fire extinguisher (dry chemical ABC type) must be furnished at each exit of an enclosed tent. The sponsor for the event using the tent is responsible for ensuring that fire extinguishers are provided.
2. Smoking is prohibited in any tent.
3. Pyrotechnics, open flames (including use of sterno and other food warming devices), and cooking equipment must be approved in advance by the local or State Fire Marshal's Office. Commercial cooking equipment such as grills and broilers, when used within a tent, must meet the same requirements for indoor commercial kitchens (i.e., proper ventilation, fire suppression systems). Cooking is not allowed within 10 ft. of exits

Electrical

1. The electrical system and equipment must be isolated from the public by proper elevation or guarding.
2. All electrical fuses and switches must be enclosed in approved enclosures.
3. Cables on the ground in areas travel by the public must be placed in trenches or protected by approved covers (yellow jacket etc.).
4. All electrical systems must be properly grounded.
5. Generators must be placed so that exhaust fumes do not enter tents. Generators must be at least 20 ft. from tents

Applicable Standards of the State Fire Prevention Code

- NFPA 1, *Fire Prevention Code*
- NFPA 101, *Life Safety Code*
- NFPA 102, *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures*
- NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*
- NFPA 70, *National Electrical Code*
- Minnesota Uniform Fire Code (MUFC) Article 32 (*Temporary tents and membrane structures greater than 200 square feet in area*)
- International Fire Code (IFC) *When Minnesota adopts the International Fire Code (IFC) the following references to the Minnesota State Fire Code will change to the IFC. IFC Section 2410.2*

Insurance Requirement

Outside groups are required to provide evidence of insurance by way of certificate of insurance that names the college or university as coinsured for the event. Certificates of insurance must be provided to the college or university event sponsor.

Note: When Minnesota adopts the International Fire Code (IFC) the following references to the Minnesota State Fire Code will change to the IFC.

MUFC ARTICLE 32—TEMPORARY MEMBRANE STRUCTURES, TENTS AND CANOPIES

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- A. The requirements for temporary membrane structures, tents and canopies have been reformatted.
 - B. The definition of “temporary structure” was deleted, since the definition of temporary membrane structure and Section 3204 provide appropriate time limitations.
 - C. There is an errata to Section 3205.2. Location and parking requirements also apply to temporary membrane structures and canopies.
 - D. The requirements relating to cooking and heating have been expanded:
 1. Section 3216.3.2 requires a minimum 20 foot separation between tents where cooking is performed and other tents, canopies and temporary membrane structures.
 2. Section 3216.3.3 prohibits outdoor cooking that produces sparks or grease-laden vapors within 20 feet of a tent, canopy or temporary membrane structure.
 3. Section 3216.4 contains requirements relating to LP-gas
 4. Section 3216.5 specifies that electrical heating and cooking equipment must be in accordance with the Electrical Code.
 - E. Section 3217.3 prohibits refueling involving flammable and combustible liquids within 20 feet of a tent, canopy or temporary membrane structure.
 - F. Section 3218 requires liquid- and gas-fueled vehicles and equipment for display, competition or demonstration to be in accordance with Article 25.
 - G. Section 3219 requires a minimum 20 foot separation between generators and other combustion power sources and tents, canopies and temporary membrane structures.
 - H. This article no longer contains requirements relating to hazardous gases in balloons (formerly found in Section 32.120 of the 1991 UFC). See MUFC (98) Section 7903.1.9 for provisions relating to pressurizing of inflatable equipment, devices or balloons.

APPENDIX D22 FIRE WATCH PROCEDURES FOR FACILITIES

Background

A Fire Watch is a procedure by which a Fire Guard physical inspection conducted when a building's fire alarm and/or sprinkler system is not operational.

During a Fire Watch, a responsible occupant, Fire Guard, actively looks for evidence of smoke and fire, listens for in-room smoke detectors sounding, and if smoke or fire is found, contacts emergency personnel and evacuates the building.

The State Fire Prevention Code requires that buildings equipped with fire alarm systems in buildings, and sprinkler systems in those buildings equipped with them are operational at all times.

A Fire Watch through the use of Fire Guard(s) is an emergency, short-term alternative that permits continued occupancy of facilities.

Who Calls a Fire Watch?

A fire watch may be required by the Local Fire Department, local or State Fire Marshals, Physical Plant Personnel, Campus Security, or Residential Facilities. The need for a fire watch is based on an assessment of the operational status of a fire alarm and/or sprinkler system.

What do you do when notified that a Fire Watch is required?

1. Notify the Campus Security Office at X2111 immediately of the need for a Fire Watch
2. Notify building occupants that the fire alarm system is down and if they see a fire they need to notify security and evacuate the building immediately.
3. Security will notify the Physical Plant Personnel to repair the system.
4. Contact a contractor to repair systems if it can not be repaired by Physical Plant Personnel or they are not available.

When is a Fire Watch Required in Building?

I. Non – Residential Buildings

A Fire Watch will be required from Monday through Thursday during the hours of 2100 to 0600 and on Friday though Sunday from 1700 on Friday to to 0600 o Monday Morning on orders from the Fire Commander.

- 1) Failure of Sprinkler system, but the fire alarm system intact –

No Fire Watch required.

- 2) Failure of Fire Alarm System with sprinkler system intact or not intact.

-
- 1) Fire Watch not required during normal business hours, but building occupants must be notified system being down. Occupants instructed to notify security immediately when a fire is noticed and to evacuate the building immediately.
 - 2) Fire Watch not required if building is locked down after normal business hours and all entrance doors posted stating that the building is closed because of Fire Alarm system being down. Campus Security will inspect the building periodically through out the night.
 - 3) Fire Watch is required if building is going to be occupied during non-business hours. Department may need to provide fire watch or pay for fire watch service.

II. Residential Buildings

A Fire Watch will be required from Monday through Thursday during the hours of 2100 to 0600 and on Friday though Sunday from 2100 to 0800 on orders from the Fire Commander.

- 1) Gage Complex
 - a) Failure of sprinkler system – other system intact.

No Fire Watch Required
 - b) Failure of the corridor smoke detector system – sprinklers and room detector intact. One roving Fire Watch patrol per tower. This individual would ride the elevator to the top floor, using the FD bypass if necessary, and systematically check each floor for smoke/fire. In the event the patrol officer detects fire/smoke, the residents will be notified via procedure below.
 - c) Failure of the pump and/or sprinkler and failure of the entire fire alarm system – room detectors intact.

A Fire Watch of One Person Per four Floors will be required.

- 2) Crawford/McElroy Complexes

a) Failure of Fire Alarm System

A fire Watch of One Person Per Four Floors will be required.

III. Residential Life responsibilities:

Assign the night owl on duty as the Fire Watch until the permanent relief arrives.

IV. Security Responsibilities:

- A. The assigned Fire Watch will be provided a portable radio from the Fire Commander in order to have a direct link to the fire dispatcher.
- B. The Paraprofessional Patrol Officer, Campus Security Officer or higher authority will provide a Fire Watch officer from his shift if it will not interfere in the security of the campus.
- C. The Fire Watch will be provided keys for the area requiring a Fire Watch. Key rings will be located in the Communications office in the FTE keybox.
- D. The Paraprofessional Patrol Officers, Campus Security Officers or higher authority will coordinate scheduling the Fire Watch patrol when activated after office hours.
- E. The Paraprofessional Patrol Officers, Campus Security Officers of higher authority will make periodic checks of the Fire Watch site.
- F. The dispatcher will notify the on duty ACD by calling the front desk when the Security Department can not provide a fire watch or more than one Fire Watch is required. Dispatch will notify the duty ACD of the time and place to report for a briefing. If for some reason there is a problem staffing the Fire Watch, contact the Security call list.
- G. Dispatch will notify the Director of Residential Life, when a Fire Watch is directed by the Fire Commander and the Security call list.
- H. When Security and Residential Life can not staff a fire watch, the Director of Residential Life or his/her designee may authorize the temporary hiring of a firefighter to perform the Fire Watch.

THE FIRE WATCH WILL PATROL THEIR ASSIGNED AREAS CONTINUALLY CHECKING FOR FIRE, SMOKE, ODOR OR BURNING MATERIAL.

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- V. When any of the above are found, notify residents and security by:
- A. Notify Security dispatch and the fire department dispatcher (2900) immediately by portable radio.
 - B. Knock loudly on all doors to wake up all residents while calling out in a loud voice “FIRE” and continue calling out, “FIRE” until all residents have been notified.
 - C. Notify Security by phone (2111) or by portable radio, (200) of the situation. This may be accomplished by having the first person on the scene call security.
 - D. Evacuate all residents.
 - E. Close all doors.

FIRE WATCH PERSONNEL MUST KNOW THE LOCATION OF TELEPHONES IN CASE OF AN EMERGENCY.

What is the Fire Watch Will Responsibility?

1. An inspection of the entire building must be conducted by a responsible occupant at least once per hour.
2. The person responsible for the fire watch must be continuously awake and in a public area of the building at all times during their shift.
3. A written log of the fire watch must be maintained. The log must include the date, time, status of alarm, and legible signature of the person performing the watch. The log may be picked up by a Campus Security Office or fire marshal when the alarm is restored.
4. The fire watch must be continuous during the period that a fire watch is required until the alarm is repaired.
5. The person performing fire watch must call Campus Security Office at X2111 each hour on the hour and report that the building inspection has been completed and the status of the watch.
6. The person performing the fire watch must immediately notify the occupants as best as possible and evacuate the building at the first evidence of any fire or smoke and must report the emergency to Local Fire Department at 9-9-1-1 or Campus Security at X2111.
7. Continue the fire watch until it is cancelled, they have been relieved by another person, or Fire Watch has expired for the day because building is occupied.

Who Cancels the Fire Watch?

A fire watch may be canceled by the Fire Department, local or State Fire Marshals, Physical Plant Personnel, or Residential Facilities, Campus Safety, or Campus Security Office.

Canceling a fire watch is based on an assessment that the fire alarm and/or sprinkler system is in an operational status. Notify Campus Security Office at X2111 that the fire watch has been canceled.

Questions

Campus Security
507-389-2111

Physical Plant Personnel
507-389-2071

Campus Safety
507-389-5568

Local Fire Marshal
507-389-8563

**XI. APPENDIX D23 FIRE SAFETY REGULATIONS FOR INDOOR
DISPLAY OF EVERGREEN TREES**

Anyone wishing to display an evergreen tree during the holiday season must be aware of the following State fire safety regulations. These regulations apply to **all** facilities.

Minnesota Uniform Fire Code:

The following items are a reprint of the requirements relating to Christmas trees found in the 1998 Minnesota Uniform Fire Code:

7510.3570 ARTICLE 11 - GENERAL SAFETY PRECAUTIONS.

Subpart 1. **Sec. 1102.** Sections 1102.1, 1102.2, 1102.3 and 1102.5 of the Uniform Fire Code are deleted.

Subp. 2. **Sec. 1103.3.3.1.** Sec. 1103.3.3.1 of the Uniform Fire Code is amended by adding Exception 5 to read:

5. Christmas trees shall be used, displayed and stored in accordance with Sec. 1103.3.3.7.

Subp. 3. **Sec. 1103.3.3.** Sec. 1103.3.3 of the Uniform Fire Code is amended by adding sections to read:

1103.3.3.7 Christmas trees. The use, display or storage of natural or resin-bearing Christmas trees or is prohibited.

EXCEPTIONS:

1. The use and display of natural or resin-bearing Christmas trees or decorations inside individual dwelling units of Group R, Divisions 1 and 3 Occupancies is permitted.

2. Natural or resin-bearing trees without open flames or electric light are allowed in Group E Occupancies, Group A Occupancies used for worship purposes, Group R-1 Occupancies used for hotels and congregate residences, Group B Occupancies and Group M Occupancies.

1103.3.3.7.1 Use of artificial Christmas trees. The use or display of flame-retardant artificial trees with listed electric light decorations is allowed in all occupancies as long as they meet the requirements of Section 1103.3.3.7.2.

1103.3.3.7.2 Location. Christmas trees shall not block access to required exits or obstruct, impair or block access to any fire-protection device, appliance or equipment.

More information is available from the Minnesota State Fire Marshal Division at (651) 215-0500. You can also email questions to firecode@state.mn.us or visit web page at www.dps.state.mn.us/fmarshal for the latest information on fire in Minnesota.

APPENDIX D24 BONFIRES

Bonfires

Bonfires are permitted in designated locations when atmospheric conditions permit. The request shall be made through the scheduling office. The Campus Safety Office will consult with the Fire Marshall's offices prior to giving approval for bonfires.

Permission must be obtained from the Campus Safety at least 10 working days before starting a bonfire on Campus property.

Appropriate fire extinguishers must be available. The bonfire should be limited in size to 5 ft X 5 ft X 5 ft and must be at least 200 feet from any structure or exposure.

Only seasoned dry firewood may be used. The fire must be ignited by paper. Hydrocarbon fuels are prohibited. The fire must be put out before leaving. Attendance minimums:

- 1 portable fire extinguisher with minimum 4-A rating,
- or 2 portable fire extinguishers with minimum rating of 2-A rating.
- Duration: Up to 3 hours.
- Trained personnel with appropriate equipment to use the extinguishers.

Larger Bonfires

Larger bonfires may be acceptable if the Fire Safety Engineer approves.

The Local Fire Department shall be available and in attendance.

Only seasoned dry firewood may be used. The fire must be ignited by paper. Hydrocarbon fuels are prohibited. The fire must be put out before leaving.