FALL PROTECTION PROGRAM (OHS-0010)

For

KENT STATE UNIVERSITY

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1.0 PURPOSE

1.1 The purpose of the University’s Fall Protection Program is to ensure that affected employees can identify and control fall hazards in order to protect themselves against those hazards. It is not only the intent of the employer to fully comply with applicable environmental, health and safety standards and regulations, but also to maintain and improve the overall safety of Kent State University (KSU).

2.0 DOCUMENT CONTROL

2.1 Approvals: This procedure as well as all Environmental, Health and Safety (EH&S) procedures must be approved by the Manager, Occupational Health and Safety (MOHS).

Approved by: ____________________________ Date: December 17, 2007

Manager, Occupational Health and Safety

2.2 Responsibility:

2.2.1 The Administrator of this procedure is the MOHS. This includes updating / revising the procedure, arranging for typing and providing revised copies to the Master Copy Holder for distribution. The Administrator will establish a review schedule for this procedure so as to ensure that this procedure contains only the most current information relevant to existing federal, state and local laws and regulations governing fall protection.

2.2.2 The Master Copy Holder for this procedure is the MOHS. MOHS is responsible for ensuring that relevant elements of applicable quality control procedures governing policies, programs, procedures and checklists are being followed. This includes the preparation of revisions to this procedure, obtaining approvals, recording changes, distribution and compliance with other document(s).
3.0 DEFINITIONS

**Anchorage**: means a secure point of attachment for lifelines, lanyards or deceleration devices. Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds (22.2 kN) per employee.

**Barricade**: a temporary or portable guardrail system erected to prevent employees from falling to lower levels. Barricades must meet all of the requirements of guardrail systems (see below).

**Body Harness**: straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

**Competent Person**: a person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as in their application and use with related equipment.

**Connector**: a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral part of the system (such as a buckle or D-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

**Controlled Access Zone (CAZ)**: An area in which certain work (overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled. For building roofs, controlled access zones are created by providing access to the roof via locked doors or hatches with signs indicating “Roof Access by Authorized Personnel Only.”

**Deceleration Device**: means any mechanism, such as a rope grab, rip-stitch lanyard, specially woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

**Fall Hazard**: Risks associated with walking or working on unprotected sides and edges, leading edges, unprotected holes and roofs 6 feet or more above an adjacent lower level.
**Fixed Fall Protection Systems**: When a fall hazard exists, fixed fall protection systems consisting of a stable work platform with all floor openings and open edges protected by fixed guardrails or temporary barricades.

**Guardrails**: a fixed barrier erected to prevent employees from falling to lower levels. Guardrails must be 42 inches high (plus or minus 3 inches) with a midrail and toeboard (if others will be working below) to prevent material from falling onto people working below. Guardrails must be capable of withstanding a force of at least 200 pounds applied within 2 inches of the top edge in any outward or downward direction without significant deflection (i.e., no more than 3 inches).

**High Work**: Work performed within 50 feet of unprotected sides and edges, leading edges, unprotected holes and roofs that are 6 feet or more above an adjacent lower level.

**Hole**: a gap or void 2 inches (5.1cm) or more in its least dimension, in a floor, roof, or other walking/working surface.

**Infeasible**: that it is impossible to perform the construction work using conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection. (Infeasibility for any situation will be determined by the Safety Department).

**Lanyard**: a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body harness to a deceleration device, lifeline, or anchorage.

**Leading Edge**: the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an “unprotected side or edge” during periods when it is not actively and continuously under construction.

**Lifeline**: a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

**Lower Levels**: those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.
Occupational Safety and Health Administration (OSHA): the federal agency responsible for promulgating and enforcing regulations relating to employee safety and health.

Opening: a gap or void 30 inches or more high and 18 inches or more wide, in a wall partition, through which employees can fall to a lower level.

Personal Fall Arrest System: a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As fall arresting systems may be used around live electrical equipment, they must satisfy the arc-flash requirements of ASTM (American Society for Testing and Materials) Standard F887-05e1 (Standard Specification for Personal Climbing Equipment) and ANSI/ASSE (American National Standards Institute / American Society of Safety Engineers) Standard Z359.1 (Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components). Personal fall arrest systems should not be confused with personal fall restraint systems.

Personal Fall Restraint System: a system used to prevent an employee from getting close enough to an edge or opening to permit him/her to fall (i.e., within three feet). It consists of an anchorage, connectors, body harness and may include a lanyard, lifeline, or suitable combinations of these. It does not include a deceleration device. As fall restraint systems may be used around live electrical equipment, they must satisfy the arc-flash requirements of ASTM (American Society for Testing and Materials) Standard F887-05e1 (Standard Specification for Personal Climbing Equipment) and ANSI/ASSE (American National Standards Institute / American Society of Safety Engineers) Standard Z359.1 (Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components). Personal fall restraint systems are not to be confused with personal fall arrest systems.

Portable Ladders: a vertical or inclined set of rungs or steps. All ladders must be designed and used consistent with the OSHA Portable Wood Ladder (29 CFR Part 1910.25); OSHA Portable Metal Ladder Standard (29 CFR Part 1910.26) or ANSI Portable Reinforced Plastic Ladder standard (ANSI A14.5-2007). Although the use of fall protection systems is encouraged, they are not required for employees working on fixed ladders that are 24 feet or less in height or portable ladders that permit employees to work at levels that are six (6) feet in height or greater.
Portable Manlifts: A device consisting of a power-driven endless belt moving in one direction only, and provided with steps or platforms and handholds attached to it for the transportation of personnel from floor to floor. All manlifts must be designed and operated consistent with the OSHA Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms standard (29 CFR Part 1910.68).

Portable Stairs or Ladder Stands: a portable set of stairs that can be moved into place to create and elevated work platform. Portable stairs or ladder stands must be designed or operated consistent with the OSHA Walking-Working Surfaces standard (29 CFR Part 1910.29).

Qualified Campus Maintenance Personnel or an Appropriate Contractor: Individuals with a minimum of two years skilled work experience in one or a combination of the following areas: carpentry, electrical, plumbing, or heating/air conditioning (or equivalent combination of education and experience which provides comparable knowledge, skills and abilities). In addition, this individual must be familiar with the construction and operation of the equipment and the hazards involved.

Qualified Trainer: Individuals with basic teaching skills as well as the knowledge and experience necessary to provide employee training for this program and evaluate the performance of trainees. KSU management will determine whether trainers satisfy these requirements before they are allowed to train KSU employees.

Safety-Monitoring System: a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards. Safety monitoring systems can be used exclusively on roofs of 50 feet or less in width. For all other roofs, safety monitoring systems must be used in conjunction with personal fall arrest systems, personal fall restraint systems and/or warning line systems.

Scaffolding: A temporary platform, either supported from below or suspended from above, on which workers sit or stand when performing tasks at heights above the ground.

Toeboard: a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.

Unprotected Sides and Edges: any edge or side (except at entrances to points of access) of a walking/working surface, e.g. floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches high.
Walking/Working Surface: any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork, and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

Warning Line System: a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body harness, or safety net system to protect employees in the area.

Work Area: that portion of a walking/working surface where job duties are being performed.

4.0 OBJECTIVE

4.1 KSU shall establish a Fall Protection Program consisting of, but not limited to, the following:

- Engineering controls designed to eliminate fall hazards, wherever possible, through the installation of fixed guardrail systems and/or work platforms that minimize exposures to employees, contractors and visitors;
- Where fixed permanent engineering controls to eliminate fall hazards are not practical or possible, temporary barricades and other structures that minimize exposures to employees, contractors and visitors will be used;
- Where fixed permanent and temporary engineering controls are not practical or possible, appropriate personal protective equipment consisting of fall restraint and/or fall arresting devices will be provided for use with suitable anchorage as temporary fall protection;
- Documented procedures for performing periodic preventive maintenance of fall protection systems, devices and personal protective equipment; and
- Training for personnel potentially affected by work covered by this program.

The long-term goal of this program is to eliminate the use of safety monitors, wherever possible.
5.0 SCOPE

5.1 This Fall Protection Program applies to all KSU employees who perform High Work as defined within this program.

As specified in the OSHA Fall Protection standard (29 CFR Part 1926.500(a)(1)), this program does NOT apply when KSU employees are making an inspection, investigation or assessment of workplace conditions prior to the start of high work or after high work has been completed, unless the employee or supervisor deems it necessary.

OSHA found, during the rulemaking process, that the short duration of hazard exposure was part of the basis for creating the exception for the inspection-only activity. Another basis for the exception was the concept that, during inspections before and after the work is done, there is no on-going work to divert the inspector's attention from the fall hazard. Once there are other activities, the risk goes up by virtue of that diversion of attention. Consequently, in the preamble to the rule, OSHA stated that the exception does not apply if the inspection activity takes place at the same time that other activities are on-going:

“If inspections are made while construction operations are underway, all employees who are exposed to fall hazards while performing inspections must be protected as required by Subpart M.”

Therefore, apart from inspections, OSHA rejected short duration of the exposure as an exception to the fall protection requirement.

The following fall hazards are NOT covered under the scope of this program:

- Construction of electric transmission and distribution lines and equipment;
- Steel erection; and
- Cranes and derricks.

5.2 This Fall Protection Program does not apply to third-party contractors or other non-KSU employees while on KSU property. However, non-KSU employees performing high work while on KSU property must enforce their own written Fall Protection Program that conforms to all applicable federal, state and locals laws and regulations.
6.0 RESPONSIBILITIES

6.1 Manager, Occupational Health and Safety

6.1.1 MOHS shall develop and oversee implementation of a written Fall Protection Program.

6.1.2 MOHS shall conduct routine evaluations of the workplace to ensure that the written Fall Protection Program is being implemented and employees are acting in accordance with established procedures and exercising necessary protective measures.

6.1.2.1 MOHS shall conduct evaluations of the workplace to ensure that the current written program is effective.

6.1.2.2 MOHS shall regularly interview employees to ascertain their views on the program’s effectiveness and identify existing or potential problems.

6.2 FACILITY MANAGEMENT

6.2.1 KSU shall establish a written Fall Protection Program. This program shall be accessible to all employees.

6.2.2 KSU shall provide employees with information and training on the purpose and function of the Fall Protection Program and ensure the necessary knowledge and skills to ensure compliance to the established procedure.

6.2.3 KSU shall review the work to be performed and issue a High Work Permit (see Appendix A) specific for the work to be performed whenever all of the following conditions exist:

- High work must be performed by KSU employees within 15 feet of unprotected sides and edges, leading edges, unprotected holes and roofs that are 6 feet or more above an adjacent lower level;

- Fixed fall protection systems are not available; and
• The work cannot be performed using portable manlifts, stairs or ladders in conjunction with appropriate fall arrest or fall restraint systems.

6.3 FACILITY PERSONNEL

6.3.1 Facility personnel are expected to fully comply with applicable provisions of this Fall Protection Program.

7.0 METHODS OF COMPLIANCE

7.1 General.

7.1.1 KSU shall provide fall protection systems for any employee performing high work. Fall protection systems shall consist of:

1. Fixed fall protection systems as defined within this program and as required by OSHA under 29 CFR Part 1926.502(b) will be provided for high work within 15 feet of unprotected sides and edges, leading edges, unprotected holes and roofs that are 6 feet or more above an adjacent lower level. Controlled access zones with either warning line systems or safety monitors will be provided for high work performed more than 15 feet but less than 50 feet from unprotected sides and edges, leading edges, unprotected holes and roofs that are 6 feet or more above an adjacent lower level.

2. Portable manlifts, stairs and ladders as required by OSHA under 29 CFR Part 1910.68 (manlifts) and 29 CFR Part 1910.29 (stairs) as well as 29 CFR Part 1910.25 and 29 CFR Part 1910.26 (ladders) in conjunction with personal fall arrest systems or personal fall restraint systems as defined within this program and as required by OSHA under 29 CFR Part 1926.502(d). Although the use of fall protection systems is encouraged, they are not required for employees working on fixed ladders that are 24 feet or less in height or portable ladders that permit employees to work at levels that are six (6) feet in height or greater.
3. Controlled access zones with either warning line systems or safety monitors as defined within this program and as required by OSHA under 29 CFR Part 1926.502(f); 29 CFR Part 1926.502(g) and 29 CFR Part 1926.502(h). These methods will only be used when fixed fall protection systems are not available and it is infeasible to use portable manlifns, stairs or ladders in conjunction with an appropriate fall arrest or fall restraint system. If this method is chosen, a High Work Permit (see Appendix A) for each specific high work task must be completed and signed by the employee’s direct supervisor prior to the start of work.

Wherever practical and possible, fall protection systems will be provided in the order listed above.

7.1.2 KSU shall provide personal fall arrest systems and personal fall restraint systems as defined within this program at no expense to employees. These systems shall satisfy the arc-flash requirements of ASTM (American Society for Testing and Materials) Standard F887-05e1 (Standard Specification for Personal Climbing Equipment) and ANSI/ASSE (American National Standards Institute / American Society of Safety Engineers) Standard Z359.1 (Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components).

7.2 Employee Fall Protection Options.

7.2.1 Under the Fall Protection Program, the employee’s first responsibility is to know when they are performing high work covered by this program. High work is defined as any work performed in an area within 50 feet of unprotected sides and edges, leading edges, unprotected holes and roofs that are 6 feet or more above an adjacent lower level.

7.2.2 When high work is to be performed within 15 feet of unprotected sides and edges, leading edges, unprotected holes and roofs that are 6 feet or more above an adjacent lower level and fixed fall protection systems (i.e., guardrails or barricades as defined within this program) are not available, the following devices can be used:
- **Portable Manlifts:** Fall arrest systems must be used whenever working from a portable manlift (Exception: a fall arrest system is not required in a scissor lift or personal man lift with surrounding guardrail system and closing gate or latch chain).

- **Portable Stairs, Mobile Ladders and Scaffolds:** Fall arrest systems must be used whenever working on manually propelled mobile ladder stands and scaffolds (towers) that have no fixed fall protection barriers.

- **Portable Ladders:** Portable ladders must be secured from movement at both the top and bottom. Although the use of fall protection systems is encouraged, they are not required for employees working on portable ladders that permit employees to work at levels that are six (6) feet in height or greater.

- **Fixed Ladders:** Although the use of fall protection systems is encouraged, they are not required for employees working on fixed ladders that are 24 feet or less in height.

**7.2.3** Controlled access zones in conjunction with either warning line systems or safety monitors as defined within this program will only be used when fixed fall protection systems are not available and it is infeasible to use portable manlifts, stairs or ladders in conjunction with an appropriate fall arrest or fall restraint system. If this is the only option available for performing high work, the employee must first obtain a High Work Permit (see Appendix A) from their supervisor.

**8.0 SYSTEM MAINTENANCE**

**8.1** Qualified campus maintenance personnel or an appropriate contractor will perform periodic preventive maintenance of portable manlifts, stairs and ladders as recommended by the manufacturer.

**8.2** Qualified campus maintenance personnel or an appropriate contractor will perform preventive maintenance including inspections and testing of personal fall arrest systems and personal fall restraint systems. This shall include anchor points installed for use in conjunction with either a fall arrest system or fall restraint system.

**8.3** Equipment tagged with expiration dates will be destroyed or discarded and replaced as needed.
8.4 All preventive maintenance, inspections and tests will be implemented and documented through the existing KSU computerized preventive maintenance program.

9.0 TRAINING

9.1 All KSU employees who may be required to perform high work as defined within this program shall receive initial training in the application of this program prior to performing high work for the first time.

9.2 All KSU employees who may be required to perform high work as defined within this program receive refresher training in the application of this program no less than every two (2) years.

9.3 All training required under this program will be provided by a qualified trainer (see definition).

10.0 RECORDKEEPING

10.1 KSU supervisors shall complete a High Work Permit form (see Appendix A) whenever all of the following apply:

- High work must be performed by KSU employees within 15 feet of unprotected sides and edges, leading edges, unprotected holes and roofs that are 6 feet or more above an adjacent lower level;
- Fixed fall protection systems are not available; and
- The work cannot be performed using portable manlifts, stairs or ladders in conjunction with appropriate fall arrest or fall restraint systems.

The completed High Work Permit must be retained at the job site until all work is finished. Once the high work is completed, the completed High Work Permit must be forwarded to the Manager, Occupational Health and Safety.

10.2 The MOHS must maintain a copy of all High Work Permits for no less than five (5) calendar years after the event.
10.3 Records of all preventive maintenance, inspections and tests of fall protection systems and equipment will be kept on file and available for auditors / inspectors for no less than five (5) years.

11.0 REFERENCES

11.1 OSHA Fall Protection standard, 29 CFR Part 1926 Subpart M.


APPENDIX A

HIGH WORK PERMIT FORM
This High Work Permit form must be completed by the area supervisor whenever:

- High work is to be performed within 15 feet of unprotected sides and edges, leading edges, unprotected holes and roofs that are 6 feet or more above an adjacent lower level;
- Fixed fall protection systems are not available; and
- The use of portable manlifts, stairs or ladders in conjunction with appropriate fall arrest systems or fall restraint systems is infeasible.

**INSTRUCTIONS**

1. The supervisor of the employee(s) performing the high work must complete all but the last section of this form.
2. The completed form must be retained by the employee(s) performing the high work at the job site until the work is completed.
3. After the high work is completed, the completed form must be returned by the employee(s) performing the high work to the supervisor.
4. After the high work is completed, the supervisor must complete the last section of this form and forward the completed form to the Manager, Occupational Health and Safety (MOHS).
5. The MOHS will retain the completed High Work Permit for no less than five (5) years.

**A. Are fixed fall protection systems in place?**

- [ ] Yes  [ ] No

**B. Is it feasible to use portable manlifts, stairs or ladders in conjunction with appropriate personal arrest systems or personal restraint systems?**

- [ ] Yes  [ ] No

If you answered yes to either of the two questions above, you do not need to use warning line systems, controlled access zones and/or safety monitors for this work and this permit is not required.

1. Have Controlled Access Zones (CAZ) with appropriate signage indicating access by authorized personnel only been established?  
- [ ] Yes  [ ] No

2. Have warning lines with appropriate signage been erected surrounding the high work area and no less than six (6) feet from the roof edge?  
- [ ] Yes  [ ] No

3. Has a properly trained safety monitor been assigned to warn employees performing the high work when it appears that employees are unaware of a fall hazard? **Safety monitors must be engaged in no other work except for monitoring the activities of employees performing high work.**  
- [ ] Yes  [ ] No

4. Have all employees performing high work or monitoring the work of others performing high work been trained appropriately?  
- [ ] Yes  [ ] No

If the answers to either question 1 or 4 is no, the high work cannot proceed until steps have been taken to correct these deficiencies. If the answer to both questions 1 and 4 is yes, the answer to either question 2 or 3 must be yes or high work cannot proceed until steps have been taken to correct these deficiencies.

I have reviewed all of the high work to be performed and have verified or confirmed that the necessary precautions as required in the KSU Fall Protection Program (OHS-0010) and this permit have been taken.

[Signature] [Date]

This section is to be completed only after the high work has been satisfactorily completed:

I have reviewed the high work area and have determined that all high work has been satisfactorily completed and that the area has been restored to its prior condition, where necessary.

[Signature] [Date]

Upon satisfactory completion of all work, forward this completed form to the MOHS.