

# UPF CHANGE NOTICE (PCN) FORM

PCN Number:	PRCN- UPF-CP-200-R10-01		PCN Rev:	0	Effecti Date:	ve
Associated Document Number:		UPF-CP-200			Rev:	10
Associated Document Title:		UPF General Safe	Work Pr	ractices		

Identify the scope of the change, including any new, removed, or changed content. Include any references, such as Condition Reports that are driving the change:

This PRCN is driven by an AA by UPO identifying the discrepancy between what is stated in Y73-059 and UPF-CP-200.

## Section 3.8, Emergency Eyewash/Showers

#### Add NOTE after Bullet 3

 SMEs will perform initial inspection, preservative change-out, and intermittent maintenance or repair inspections using form UCN-23382, Eyewash Station Change-out Inspection Log, and return to a designated record storage area.

**NOTE:** As an exception to the Y73-059 requirement for quarterly fluid change-out, UPF will follow the preservative manufacturer's expiration date.

Implements Quality Requirements (Choose One)				
	□ BNI □ CNS		☐ BNI & CNS	
		Prep	parer	
UPF Construction Issues Management – Procedure Compliance	Tammy Threat	Drinto	Mona (Signatura	02/13/20
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 $\boxtimes \mathsf{None}$ 



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# **REVISION LOG**

Revision	Description	Intent	Non Intent
	This revision is to combine UPF-CP-231, Rev. 9, <i>UPF Office Safety</i> into this procedure UPF-CP-200, <i>UPF General Safe Work Practices</i> .		
	This procedure supersedes UPF-CP-231, Rev. 9, <i>UPF Office Safety</i> .		
	Obsoletes UCN-23254.		
10	Addresses Condition Report 25774-000-GCA-GAM-01357, UPO-F-1 - Emergency Eyewash Equipment in Use During Concrete Placement Activities is Inadequate (ASRP-C&ESH-12.21.2018-821001) [Host to CR 1462]- 3.8 Emergency Eyewash/Showers to indicate that all eyewash and showers must conform with the most current version of ANSI Z358.1.	x	
	Added UCN-23381, UPF Weekly Eyewash inspection and UCN-23382, UPF Eyewash Station Change-Out Inspection Log.		
	An evaluation determination has been performed confirming this Command Media implements no Quality requirements, as tracked in PRMS.		
	Because of the extent of changes, revision bars were not used.		
9	This revision adds clarifying information to Section 4.10, for Construction personnel to refer to Y19-023 for further guidelines regarding Security approval prior to bringing powder-actuated tools on site or prior to using them to perform work. Additional changes include: process requirements for employee conduct as well as smoking regulations; electrical safety items removed for incorporation into a separate standalone procedure, UPF-CP-226, <i>Electrical Equipment and Assured Grounding</i> ; Records section updated with QA determination; and added several Developmental references.	X	
Previous revisions	On record	N/A	

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#### 1.0 INTRODUCTION

### 1.1 Purpose

This procedure establishes the requirements for general safe working practices at the Uranium Processing Facility (UPF) construction site. Safe work practices to be implemented at the UPF construction site include those that help protect workers from hazards associated with the use of tools and equipment (e.g., hand-held power tools, table saws, hydraulic lifting equipment) and those that help prevent or eliminate worker exposure to common workplace safety hazards, such as electrical hazards (e.g., frayed or damaged cords), chemical hazards (e.g., corrosive products), ergonomic hazards (e.g., manual material handling), and office safety hazards.

## 1.2 Scope

This procedure establishes the general safe working practices to be implemented by the UPF construction site personnel, including subcontractor employees.

This procedure applies to all personnel working on or visiting a UPF office, warehouse, OR construction site as described in PL-CM-801768-A014, CNS / BNI Construction Work Area Access Requirements for UPF Construction, unless otherwise noted in this procedure.

## 2.0 RESPONSIBILITIES

#### 2.1 UPF Site Manager

The UPF Site Manager is responsible for ensuring the implementation of this procedure. In coordination with the Environmental, Safety, and Health (ES&H) Manager, the UPF Site Manager is also responsible for:

- Ensuring that all UPF construction site personnel actively participate in safe working practices.
- Providing worker support, facilities, and other resources necessary to effectively carry out safe working practices.

# 2.2 Environmental, Safety, and Health Manager

The ES&H Manager has the overall authority for the interpretation of the regulations associated with this procedure and the interpretation of the intent and applicability of this procedure.

#### 2.3 Construction Supervision

Construction Supervision is responsible for being thoroughly familiar with this procedure and having a full understanding of the individual roles and responsibilities for compliance with and implementation of this procedure. Construction Supervision is also responsible for:

- Planning work activities in advance to identify the appropriate tools and equipment.
- Ensuring that workers understand the requirements of the procedure.

#### 2.4 Supervisors

Supervisors are responsible for:

- Following up on Project personnel stop/pause work and providing clarification/direction to resolve stop/pause work issues.
- Ensuring that the applicable safety controls and processes are incorporated into the planning and execution of the work and that the workers are using the correct tools and equipment for the assigned task.
- Ensuring that unsafe conditions are isolated or controlled until the condition is corrected.
- Ensuring that workers are applying safe work practices.

# 2.5 Project Personnel

All UPF Project personnel are responsible for:

- Understanding and complying with the requirements of this procedure.
- Knowing how to apply safe working practices and stopping/pausing work when they
  observe unsafe conditions or behaviors or new hazards in their work area.
- Pausing/stopping work when they are unsure of how to use a tool or equipment safely.

Project personnel should pause/stop work and request that their supervisor provide further clarification or directions, which may include safety recommendations, requirements, or guidance provided by the manufacturer of the tool or equipment.

# 2.6 Facility Managers

The Facility Manager (FM) is responsible for:

- Coordinating facility repairs and maintenance activities with office staff, as needed.
- Ensuring that significant maintenance work area hazards are posted in accordance with UPF-CP-214, *Barricades and Signs*.
- Ensuring that the Building Emergency Plan (i.e., Orange Book) is maintained for the assigned facility.
- Ensuring that safety evaluations of office areas are periodically performed and that results are discussed with assigned workers. Actions, if applicable, are tracked to closure via Chekov (use Chekov Office Safety Inspection Checklist).

#### 3.0 REQUIREMENTS

# 3.1 Work Dress/Apparel Requirements for UPF Construction Sites

Refer to UPF-CP-205, Personal Protective Equipment and Safe Work Apparel.

## 3.2 Smoking Regulations

Smoking is permitted only in posted, designated areas. Refer to UPF-POLICY-CM-004, *UPF Smoking/Tobacco Use Policy.* 

#### 3.3 Radio and Electronic Equipment

DO NOT use headphones, speakers, CD players, or other such equipment while in active construction work areas.

Workers shall not use cell phones while engaging in work tasks or operations that may be considered critical or hazardous. The use of cell phones is also not permitted when it could cause distraction and increase the potential for mishaps. For information about the use of cell phones, see UPF-CP-229, *Vehicle Safety Management*. Reference Consolidated Nuclear Security, LLC (CNS) E-POL-1021, *Cellular Telephone/Portable Electronic Device Motor Vehicle Safety Policy*, and Y15-95-235, *UPF Command Media*, *Section 2.8*.

#### 3.4 Signs and Tags

Appropriate signs and tags will be placed at hazardous and potentially hazardous locations throughout the UPF construction site. All accident prevention signs and tags shall conform to applicable regulatory specifications (e.g., use, color, size, placement, and wording). For requirements that govern signs and tags used with barricades, refer to UPF-CP-214.

## 3.5 Hand, Air, and Electrical Tools

Tools used on the UPF construction site shall not be manufactured, altered, modified, or in any way changed without the explicit approval of the UPF Site Manager and ES&H Manager.

Personnel shall ensure that hand tools are safe by performing the following:

- Inspecting tools before each use for damage or defects, such as:
  - Cracked handles
  - Damaged cutting edges
  - Splitting or cracked parts
  - Broken adjusting components
  - Insulation damage (e.g., flattened, cuts, abrasions, burnt or discolored conductors, melted cord caps, cord deformation)

#### NOTE:

If you find a damaged or defective tool, report it to the supervisor, place a "Danger. Defective Tool/Equipment. Do Not Use" tag on it, and return it to a controlled area (e.g., Tool Room) for repair.

- Verifying that the work package identifies non-sparking tools when the work to be performed may require them.
- Testing daily ground fault circuit interrupter (GFCI) receptacles prior to use, including portable units.
- Verifying that tools and their components (e.g., guards, retainers, and other safety mechanisms) are not altered and that they are operated in accordance with the manufacturers' specifications. Refer to UPF-POLICY-CM-001, UPF Life Critical Requirements Policy, for details.

- Ensuring that guards are in place for tools, such as saws and grinders, while they are in operation.
- Ensuring that tools are not abused, are kept in good operating condition, and are only used for their intended purposes.
- Double insulating or grounding all electrically powered tools. If there is evidence that the ground pin has been damaged or removed, then immediately take the tool out of service, tag it, and return it to a controlled area for repair.
- Protecting temporary construction outlets used for 120 volt tools with GFCI devices.
- Inspecting woodworking tools for the following:
  - Fixed power-driven tools have disconnect switches that can be either locked or tagged in the off position.
  - Circular saws that are over 20 inches in diameter and/or operated over 10,000 peripheral feet per minute have clearly marked operating speeds.
  - o Installed automatic feed devices are covered and/or guarded.
- Ensuring that the manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings used for conducting compressed air are not exceeded.
- Ensuring that the pressure of compressed air used for cleaning purposes is less than 30 pounds per square inch. Compressed air shall not be used for cleaning or blowing dust from any part of the body or clothing.
- Securing airline hoses for hand tools and other equipment together (i.e., with whip
  restraints) to preclude uncontrolled whipping in the event that hose couplings
  become separated while under pressure.
- Protecting air-supplying hoses exceeding 1/2-inch internal diameter with an excess flow valve to prevent whipping in the event of hose separation or failure.
- Installing air receivers and associated drains, traps, gauges, and safety valves to promote ease of access and safe operation.
- Having personnel ensure that portable grinders are properly configured for either a left-handed or right-handed person's use, as applicable.
- Providing portable grinders with a hood-type guard with side enclosures that cover the spindle and at least 50 percent of the wheel. All wheels shall be inspected regularly for signs of fracture.

Bench grinders shall be equipped with deflector shields and side cover guards that have:

- A maximum angular exposure of the grinding wheel periphery and sides not more than 90 degrees, except when work requires contact with the wheel below the horizontal plane of the spindle.
- An angular exposure not exceeding 125 degrees.
- An exposure not beginning more than 65 degrees above the horizontal plane of the spindle.
- Have tool rests with a maximum clearance of 1/8-inch between the wheel and grinding stone.

Hand-held grinders shall be equipped with a constant pressure switch.

Supervisors shall ensure that frequent light dressings on bench grinders are performed.

When turning on a bench grinder, the users shall stand off to one side until the wheel has come up to full speed.

Personnel shall inspect all wheels before use for signs of fracture.

Prior to operating a bench grinder, personnel shall conduct a "ring test" (i.e., gently tap the wheel with an object, which should yield a metallic tone or "ring."). If there is a "dead" sound, then take the grinder out of service and replace the wheel.

Electric bench grinders shall be equipped with an anti-restart feature to prevent restart after an electrical power outage.

Shop machines (e.g., drill presses, fixed saws, or bench grinders) shall be effectively fastened or secured in place to prevent movement during operation and use.

Tool safety retainers shall be installed on portable tools when required by the tool manufacturer (e.g., nail gun retainer).

Fuel-powered tools shall not be used in unventilated areas. Fuel shall be dispensed only from approved safety cans. These cans shall be properly labeled and stored.

Cutting tools approved for general application are cutters with an integrated safety device (i.e., self/automatic retracting blade) or safety design (i.e., scissors, shears, wire strippers, or recessed/protected blades).

Prior to using cutting tools *not approved* for general use (i.e., fixed blade knives), ensure that the Job Hazard Analysis (JHA) identifies the hazards and controls associated with the use of the tool(s) and that approval is received from the ES&H Manager or designee. The approval shall be documented on the Safety Task Analysis and Risk Reduction Talk (STARRT) card for the specific task. Refer to Y17-95-64-823, *UPF Safety Task Analysis and Risk Reduction Talk/ Job Hazard Analysis Program (STARRT/JHA) Process.* 

NOTE: The safe practice of always cutting away from yourself and using cut-resistant hand protection when using cutting tools is also discussed and documented on the STARRT card.

#### 3.6 Saws

The types of saws that the UPF construction site personnel operate include band saws, portable circular saws, radial saws, swing/sliding cut-off saws, and table saws. Use the safe working practices listed in the following sections to work safely with these saws.

#### 3.6.1 Band Saws

All portions of band saw blades will be enclosed or guarded, except for the working portion of the blade between the bottom of the guide rolls and the table.

Band saw wheels shall be fully encased.

#### 3.6.2 Portable Circular Saws

Portable, power-driven circular saws shall be equipped with guards above and below the base plate or shoe.

The lower guard will cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work.

The lower guard will automatically return to the covering position when the blade is removed from the work.

#### 3.6.3 Radial Saws

Radial saws shall be equipped with an upper guard that completely encloses the upper half of the saw blade, including the end of the saw arbor. The upper hood must be constructed in such a manner and of such material to protect the operator from flying debris (e.g., splinters, broken saw teeth) and deflect sawdust away from the operator.

The operator shall ensure that the sides of the lower, exposed portion of the radial saw blade are guarded and that the saw blade automatically adjusts to the thickness of the material and remains in contact with the material being cut.

The operator shall ensure that radial saws used for ripping are equipped with non-kickback fingers or dogs.

The operator shall verify that the radial saw's cutting head returns to its starting position when released.

## 3.6.4 Swing/Sliding Cut-Off Saws

Swing or sliding cut-off saws shall be equipped with a hood that completely encloses the upper half of the saw.

Limit stops shall be set in place to prevent swing or sliding cut-off saws from extending beyond the front or back edge of the table.

Each swing or sliding cut-off saw shall be provided with a device that will return the saw automatically to the back of the table when released at any point of its travel.

When performing inverted sawing with the sliding cut-off saws, operators will ensure that a hood is in place to cover the part of the saw that protrudes above the top of the table or material being cut.

#### 3.6.5 Table Saws

Circular table saws shall be equipped with a hood over the portion of the saw above the table and mounted so that the hood automatically adjusts itself to the thickness of the material and remains in contact with the material being cut.

Circular table saws shall have a spreader alignment with the blade spaced no more than 1/2-inch behind the largest blade mounted in the saw. This provision does not apply when grooving, performing dado work, or rabbeting (i.e., jointing).

Ensure that circular table saws used for ripping are equipped with non-kickback fingers or dogs.

Feeder attachments shall have the feed rolls or other moving parts covered/guarded to protect the operator from hazardous points.

#### 3.7 Electrical Safety

Follow the requirements of UPF-MANUAL-CM-001, *Uranium Processing Facility Construction Electrical Safety Manual.* 

## 3.7.1 General Area Lighting

Establish lighting based on schedule, volume of use, and security concerns for parking lots and non-production areas.

Protect lightbulbs from breakage in accordance with the manufacturer's guidance or as required by regulating agencies.

Position light fixtures in such a manner that will prevent employees from coming into contact with the fixtures during work operations.

Clearly illuminate ladder access and egress.

Ensure that metal-case sockets are grounded.

#### **General Illumination Intensities**

When work is in progress, then minimum illumination intensities in construction areas shall be as shown in Table 1.

**Table 1. Area of Operation Intensities** 

Area of Operation	Intensity (foot-candles)
General construction area lighting	5
Loading platforms, refueling, and field maintenance areas	3
General Rough Work	3
Material Handling	3
Concrete Placement	5
Indoors: warehouses, corridors, hallways and exit ways	5
Tunnels, shafts, and general underground work areas (exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Bureau of mines approved cap lights are acceptable for use in the tunnel heading).	5
General construction plant and shops (e.g., batch plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, rigging lofts and active store rooms, mess halls, and indoor toilets and workrooms)	10
Bench work/plastering	20
First Aid Stations, infirmaries, and offices	30

#### 3.7.2 Electrical Extension Cords

Follow the requirements of UPF-MANUAL-CM-001.

## Damage and Repair

An item found with defects shall be tagged "Danger. Defective Tool/Equipment. Do Not Use" and returned to a controlled area. Tagged items that are returned shall be checked by an authorized worker to be repaired, returned to the manufacturer, or destroyed as determined by Construction Supervision. No taping of extension cords shall be permitted as repair.

Damaged cords are those with any one of the following characteristics:

- Signs of burning or discoloration to cord cap
- Cord cap separation from cord jacket
- Missing, bent, or damaged prongs
- Cuts in the cord jacket such that, upon bending back the cable at the cut, the black, white, or green insulation sheaths on the conductors (or the conductors themselves) become visible
- "Flattened" or deformed cords

# **Cord Routing and Supports**

The preferred methods for cord routing and supports include the following:

- Route cords up and off of the working surface.
- Ensure that cords are routed at a height that is at least seven feet above the walking surface.
- Ensure that cords are out of walkways.
- Ensure that cords are secured with cable ties, where applicable.
- Route cords in non-metallic gun racks or wooden trees.
- Avoid scaffolds, stairways, ladders, and entry ways/doorways into rooms, corridors, or buildings.
- Avoid damp and wet locations.

# 3.7.3 Jacks—Lever, Screw, Hydraulic, and Ratchet

When using jacks, perform the following:

- Verify that the manufacturer's rated capacity is marked legibly on each unit.
- Verify the presence of a positive stop to prevent over-travel on all jacks.
- When the potential exists for slippage from the metal cap of the jack, establish a firm foundation during a lift by setting in place blocking and cribbing at the base of the jack and a wood block between the cap and the load.
- Crib, block, or otherwise secure a load immediately after it has been raised.
- Lubricate jacks at regular intervals and inspect them frequently, but not less frequently than the following:
  - Once every six months for constant or intermittent use
  - When jacks are sent out of shop for special work or when returned
  - When a jack is subjected to abnormal load or shock, immediately inspect before and after use
- Examine repaired jacks and associated replacement parts for possible defects.
- Tag defective jacks and take out of service until repaired.

#### 3.7.4 Powder-Actuated Tools

A powder-actuated power device is any tool or special mechanized device or gas generator system which is actuated by a smokeless propellant or which releases and directs work through a smokeless propellant charge. This type of device is referred to as a "propellant-actuated device."

Construction (i.e., direct hires/subcontractors) shall request case-by-case permission from the Y-12 National Security Complex (Y-12) Physical Security Group prior to bringing powder-actuated power devices and/or associated propellant on site and each time prior to commencing work.

When using powder-actuated tools, the following criteria shall be met:

- Only those workers who have received training for the particular tool being used are allowed to operate a powder-actuated tool.
- Test powder-actuated tools each day before loading to ensure that safety devices are in proper working condition and use the manufacturer's recommended procedure to perform the required tests.
- When powder-actuated tools are not in proper working order or when such tools
  develop a defect during use, tag them immediately "out-of-service" and remove them
  from the worksite. Faulty tools shall not return to the work area until properly
  repaired.
- DO NOT load powder-actuated tools until just prior to the intended firing time.
- DO NOT point loaded or empty tools at any workers, and keep hands clear of the open barrel end.
- DO NOT leave loaded tools unattended.
- Avoid driving fasteners into very hard or brittle materials, including cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick, or hollow tile.
- Avoid driving fasteners into materials that are easily penetrated unless such
  materials are backed by a substance capable of preventing the pin or fastener from
  passing completely through and creating a flying missile hazard on the other side.
- DO NOT drive fasteners into a spalled area caused by an unsatisfactory fastening.
- DO NOT use powder-actuated tools in an explosive or flammable atmosphere.
- Use powder-actuated tools with the correct shield, guard, or attachment recommended by the manufacturer.
- Establish a danger barricade and signage in areas where powder-actuated tools are in use in accordance with UPF-CP-214.
- Store powder-actuated tools and fasteners in accordance with manufacturers' recommendations when not in use.
- DO NOT dispose unspent rounds in domestic trash. Contact Superintendent, Site Technical Representative, and/or ES&H.
- Dispose misfired rounds in accordance with the manufacturers' instructions.
- Ensure that the tool operator wears safety glasses and a face shield during operation.

- Powder-actuated tools and powder charges shall be controlled so as to prevent unauthorized possession at any time while not in use (i.e., tools are stored in locked containers and powder charges in a locked flammable cabinet). The operators shall not carry cartridges in their pockets.
- Only powder-actuated charges, studs, pins, or fasteners designed and recommended by the manufacturer for use in a specific tool shall be used. Cross-use of accessories with tool is prohibited.
- In the event of a misfire, hold the tool in the operating position against the working surface for no less than one full minute. If it is uncertain that the tool is defective, then unload the tool and place it in its container and return it to the tool room with a tag that reads "Danger. Defective Tool/Equipment. Do Not Use."
- When making a thorough and complete study of the job, ensure that the type of material to be worked on is included, as well as its thickness and general condition.
- Ensure that occupied areas behind the firing location are cleared prior to task start.
- Avoid the use of powder-actuated tools on materials or surfaces that may be completely penetrated by the fastening stud.
- DO NOT drive fasteners directly into materials such as brick or concrete that are closer than three inches from the edge or corner or into steel surfaces closer than 1/2-inch from the edge or corner UNLESS a special guard or fixture is used.
- Ensure that the operator knows what is behind the surface or between the surfaces
  or walls into which the stud is being driven (e.g., electrical wires, fluid lines, gas lines,
  personnel).
- DO NOT carry a tool from one job to another while it is loaded.
- DO NOT fire the tool when there is an obstruction in the barrel.
- DO NOT fire a tool into a pre-drilled hole.
- DO NOT test a powder-actuated tool with the breech plug still in the barrel.
- DO NOT use a fastener without a cap or guide.
- Avoid using a long-breech plug charge in a short-breech barrel.

## 3.8 Emergency Eyewash/Showers

During construction activities, the UPF Construction Project will make available an emergency eyewash and/or showers as required by UPF Project Industrial Hygiene (IH). The CNS-managed Y-12 site utilizes procedure Y73-059, *Emergency Eyewash and Shower Equipment*, and the UPF Construction Project will utilize this procedure as it applies to performing construction work activities (e.g., portable eye washes and/or drench hoses).

- Construction Supervision will consult with IH to evaluate and pre-plan the need for emergency flushing stations where workers may be exposed to chemical or other material hazards.
- The Responsible Supervisor, or Designee, will perform weekly eyewash inspections using form UCN-23381, UPF Weekly Eyewash Inspection Checklist, and will maintain records in an accessible storage area.

- Any obstructions, damage, improper flow, or any other potential problems are to be reported immediately to supervision for resolution.
- Supervision will contact a Subject Matter Expert (SME) to address any obstructions, damage, improper flow, or any other potential problems.
- SMEs will perform initial, six-month, and intermittent maintenance or repair inspections using form UCN-23382, *Eyewash Station Change-out Inspection Log* and return to a designated record storage area.
- The Responsible Supervisor, or Designee, and SME will provide ES&H with UCN-23382 forms guarterly and upon request.

### 3.9 Temporary Outdoor Heating Devices

Ensure compliance with the following:

- Y79-001, Y-12 Fire Protection Program Manual, Section 7.2.7
- Fresh air shall be supplied in sufficient quantities to maintain the health and safety of workers.
- Use of kerosene or diesel fueled heaters inside buildings or on scaffolds is prohibited.
- Portable gas heaters shall be equipped with an approved automatic device to shut off the flow of gas if the flame goes out.
- Personnel shall ensure that all flammable and combustible materials have been removed from the immediate vicinity of all temporary heaters prior to using such equipment.

### 3.10 Concrete and Masonry Work

Ensure compliance with the following:

- Formwork shall be designed, fabricated, erected, supported, braced, and maintained so that it is capable of supporting all vertical and lateral loads that may reasonably be anticipated without failure.
- No construction loads shall be placed on a concrete structure or portion of a concrete structure unless the supervisor determines that the structure or portion of the structure is capable of supporting the loads.
- All protruding reinforced steel which workers could fall onto and into shall be guarded to eliminate the hazard of impalement.

**NOTE:** Use caps with adequate size and strength on rebar to prevent impalement.

- No worker shall work under concrete buckets while buckets are being elevated or lowered into position. Similarly, no employee shall be permitted under precast concrete members being lifted or tilted into position except those employees required for the erection of those members.
- To the extent practical, elevated concrete buckets shall be routed so that the fewest workers are exposed to the hazards associated with falling concrete buckets.
- Follow requirements of Y72-95-003, Silica Exposure Control Procedure for Construction of the Uranium Processing Facility Project.

- Forms and shores (except those used for slabs on grade and slip forms) shall not be removed until the Supervisor determines that the concrete has gained sufficient strength to support its weight and superimposed loads. Such determination shall be based on compliance with one of the following:
  - The plans, specifications, procedures, guides, and lift drawings stipulate conditions for removal of forms and shores, and such conditions have been followed.
  - The concrete has been properly tested with an appropriate standard test method designed by American Society for Testing and Materials (ASTM) to indicate the concrete compressive strength, and the test results indicate that the concrete has gained sufficient strength to support its weight and superimposed loads.
- A limited access zone is established whenever a masonry wall is being constructed.
   Personnel working in limited access zone will comply with the following:
  - Establish limited access zones prior to the start of construction of the wall.
  - Verify that limited access zones are equal to the height of the wall to be constructed plus four feet and run the entire length of the wall.
  - Establish the limited access zone on the side of the wall that will not have a scaffold.
  - Permit only those workers actively engaged in constructing the wall into the limited access zone. No other workers are permitted to enter the zone.
  - Maintain the limited access zone until the wall is adequately supported to prevent overturning and collapse.
  - Adequately brace all masonry walls eight feet high or higher to prevent overturning and collapse unless the wall is adequately supported. Keep bracing in place until permanent supporting elements of the structure are established.
- When performing lift-slab operations, the following requirements shall be met:
  - Design and plan slab lifts through a registered professional engineer who has experience in lift-slab construction.
  - Implement such plans and designs through the project/facility, and include detailed instructions and sketches indicating the prescribed method of erection.
  - Use jacking equipment capable of supporting at least two-and-one-half times the load being lifted to ensure that jacking operations and the equipment are not overloaded.

### NOTE:

For the purpose of this provision, jacking equipment includes any load-bearing component that is used to carry out the lifting operation, such as threaded rods, lifting attachments, lifting nuts, hook-up collars, T-caps, shear-heads, columns, and footings.

- Allow no workers, except those essential to the jacking operation, in the structure when any jacking operation is taking place unless the structure has been reinforced sufficiently to ensure its integrity during erection.
- Use equipment designed and installed so that the lifting rods cannot slip out of position, or institute other measures, such as locking or blocking devices that to provide positive connection between the lifting rods and attachments and prevent components from disengaging during lifting operation.

#### 3.11 Excavation Safety

Excavations requiring workers to enter shall be inspected daily prior to the start of work by a competent person. Excavations shall be inspected for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. (See Y17-95-64-822, *UPF Site Excavation and Backfill*).

### 3.12 Liquefied Petroleum Gas

Refer to UPF-CP-225, Compressed Gas Cylinders, Liquefied Petroleum Gas, and Liquefied Inert Gases.

# 3.13 Dropped Object Prevention

Guidelines for the prevention of dropped objects (tools and materials) while performing work at elevation can be found in Y73-95-100, *UPF Dropped Object Prevention*.

#### 3.14 Trash Chutes

An enclosed trash chute shall be supplied when debris and materials are required to be dropped more than 20 feet to any point lying outside of the exterior walls of the building.

- General Requirements: When debris/trash chute is constructed and/or used, the following applies:
  - No material can be dropped to any point lying outside the exterior walls of the structure unless the area is effectively protected.
  - Enclose all material chutes or sections thereof at an angle of more than 45 degrees from the horizontal, except for openings equipped with enclosures at or about floor level for the insertion of materials. The openings shall not exceed 48 inches in height measured along the wall of the chute, and all stories below the top floor, such as openings, shall be kept closed when not in use.
  - Install a substantial gate in each chute at or near the discharge end. Assign
    a competent employee to control the operation of the gate and the backing and
    loading of trucks.
  - Securely close off the area surrounding the discharge end of the chute when operations are not in progress.
  - Protect any chute opening into which workers dump debris by a substantial guardrail approximately 42 inches above the floor or other surface on which the workers stand to dump the material. Any space between the chute and the edge of the openings in the floors through which the chute passes shall be solidly covered.
  - Where the material is dumped from mechanical equipment or wheelbarrows, provide a securely-attached toe board or bumper of no less than four inches thick and six inches high at each chute opening.
  - Design and construct chutes at a strength that will eliminate failure from impact of materials or debris loaded therein and follow the manufacturer's instructions for installation and use.

- Use adequate fire protection methods (i.e., sprinklers, hose, extinguishers, or barriers) as needed for the particular hazard present. This directive also applies during the construction of the chute.
- Provide protection of openings in exterior walls and protection of combustible exterior building surfaces adjacent to the chute.
- Remove accumulations of combustible waste material, dust, and debris from the immediate vicinity of the chute and collection container at the end of each work day to minimize exposure to fires.
- Construct trash chutes used in the interior of a building of noncombustible construction material.
- Ensure that the main artery of the chute is as straight as practical to avoid accumulations or clogging within the chute.

#### Quarterly Inspection

- Inspect trash chutes for visible defects on a quarterly basis and after any occurrence that could affect their safe use.
- Place a tag that reads "Danger. Defective Tool/Equipment. Do Not Use" on trash chute equipment found damaged or unacceptable for use, in accordance with this procedure, and notify supervision.
- Document quarterly inspections using UCN-23240, Chutes Inspection Sheet, and submit the completed form to the Document Management Center (DMC).
- o Identify chute inspections using ML-SH-801768-A001, *UPF Color Code List for Documentation of Inspections*.

#### 3.15 Rollover Protective Structures

Rollover Protective Structures (ROPS) are manufactured roll cages that, when used in conjunction with seatbelts, minimize worker exposure to a pinch or crush if the equipment tips or rolls over. These ROPS apply but are not limited to the following types of material-handling equipment: all rubber-tired, self-propelled scrapers; rubber-tired front-end loaders; rubber-tired dozers; wheel-type agricultural and industrial tractors; crawler tractors; crawler-type loaders; industrial and reach forklifts, and motor graders, with or without attachments.

#### 3.16 Manual Material Handling

Engineering and Supervision should design work methods to eliminate or minimize the need for employees to manually handle heavy loads. Mechanical aids (e.g., chain falls/hoists, forklifts, carts) will be designed into work methods and job scoping.

Supervisors will be trained in the basics of manual material handling, hazards and basic controls, and conducting basic risk assessments for material handling work. Where manual handling is unavoidable, the supervisor will conduct an informal risk assessment as part of the STARRT process and follow up with employees before work starts.

#### 3.16.1 Manual Material Handling Basics

When mechanical aids cannot be utilized and manual handling is anticipated, the following guidelines can help minimize the potential for musculoskeletal injuries (e.g., back strain):

- To assist employees, it is essential to assess the load prior to attempting any manual handling task. The following questions should be considered:
  - Can slings or other aids be attached to make it easier for lifting?
  - Are handhold points strategically placed to assist the best body position for the load and prevent excessive bending or stretching?
  - o Is the load weight evenly distributed?
  - o Is the load free of debris, dust, oil, etc.?
  - o Is the work surface sound and free of obstructions (e.g., trip, fall hazards)?
  - Are storage areas and vehicle access routes identified and clearly marked?
- After these basic questions have been considered, take appropriate steps to minimize the hazard of the load by performing the following:
  - o Minimize the packaging of the load (i.e., make it smaller).
  - Sort loads by category.
  - Make it easier to grasp (e.g., assess handles, hold points, and grip indents).
  - o Lift, pull, and push within physical capabilities.
  - Obtain assistance when handling awkward loads.
  - o Avoid long intervals of bending, squatting, or kneeling.
- Lift materials by:
  - Keeping loads close to the body.
  - Lifting with the legs.
  - Maintaining load in the center of the body.
  - Neither twisting nor bending at the waist.
- Supervisors and Project field personnel may contact the UPF Industrial Hygienist to obtain an office/workstation ergonomic evaluation.

## 3.16.2 Stretching

Project-assigned field personnel should participate in the voluntary stretching (stretch and flex) program.

#### 3.17 Office Safety

**Appendix B**, *Office Facility Hazard Awareness*, provides a list of identified hazards common in the office environment and potential controls.

Chekov Office Safety Inspection Checklist is available on the UPF Chekov Tools Application webpage and is used to help assess the safety of office areas.

Managers and office staff are encouraged to periodically use the aforementioned tools to inspect office areas, develop work practices, and identify solutions to address the hazards that are identified.

#### 3.17.1 Emergencies/Fires

Managers/supervisors shall brief workers and visitors on how to respond to emergencies according to the building/office Emergency Plans (Orange Book) by becoming familiar with the building egress routes, emergency phone numbers, and location of alarms and fire extinguishers. Building Emergency Plans (Orange Book) are posted in occupied

buildings. The information in the manuals shows emergency exit routes, assembly areas, and other important emergency information.

- In the event of a fire, workers are not required to fight the fire with a portable fire extinguisher but are expected to immediately pull the fire alarm (or notify those in immediate vicinity), evacuate the building, and notify the Plant Shift Superintendent as soon as possible.
- Fire extinguishers are used only for small fires and only if the employee is familiar
  with the use of extinguishers. The proper knowledge of operation when using fire
  extinguishers will not result in endangering personal safety.

#### 3.17.2 Stairwells, Floors, and Aisle Ways

#### **Stairwells**

- Keep one hand free and use handrails when ascending and descending stairs.
- Take only one step at a time when ascending and descending stairs.
- Do not perform any activity that can be a distraction while ascending and descending stairs (e.g., reading, talking on cell-phones).
- Use caution when using doors that open into passageways.
- Stay clear of the door's swing path.
- Open doors slowly.
- Check the landing for obstacles.
- Stairwells shall not be used for storage.

#### **Floors**

- Keep floor surfaces and walkways free of loose papers, electrical cords, and other slipping or tripping hazards.
- Ensure that rugs or other floor coverings are in good condition (i.e., no holes) and report tripping hazards to the FM for correction.
- Use rugs at egress points to limit the amount of water tracked into a hard floor surface.
- Mop up spills or standing water, and post warning signs or barricades until the slip hazard is cleaned up.

## **Aisle Ways**

- Ensure that furniture or equipment does not block emergency exits, emergency equipment, or electrical panels.
- Do not leave drawers and cabinet doors open into aisle ways.
- If an aisle way is too narrow because of an obstacle placed in the aisle, then remove the obstacle or request the FM to remove it.
- Pause and look around blind corners prior to proceeding. Use safety mirrors where available.
- Ensure that aisles and passageways provide safe access for normal and emergency use by:
  - Keeping foot traffic to the right in aisle ways and stairwells.

- o Immediately correcting any developing tripping hazards.
- Reporting unsafe conditions to Supervisors and/or ES&H.
- Reporting facility deficiencies to the FM.
- Contacting Supervision and/or ES&H with any questions about emergency egress.

#### 3.17.3 Electrical

Follow the requirements of UPF-MANUAL-CM-001.

Comply with the following to ensure safe usage of electrical appliances:

 High-draw electrical appliances including space heaters, personal microwaves, personal fans, and personal refrigerators are not allowed.

# 3.17.4 Office Equipment and Furniture

Use office equipment and furniture in a safe manner. The following shall be considered when using office equipment and furniture:

- Fill bookshelves and file cabinets from the bottom up, placing heavier items near the bottom.
- Use handles on file drawers to avoid finger pinch points.
- DO NOT open two or more file drawers at the same time.
- Close file drawers completely after every use.
- Rearrange or otherwise stabilize overloaded or unstable bookshelves, file cabinets, and lockers.
- Report damaged equipment and furniture to the FM.
- Use office equipment and furniture in accordance with its intended purpose.
- Use caution when operating paper shredders or other mechanical equipment.
- Keep fingers, long hair, clothing (e.g., ties), jewelry, and security badges away from office machines.

Control materials stored in an office, including:

- Store combustible materials within the office (i.e., recycle refuse paper).
- Refrain from storing items on top of cubicle workstation bins, bookshelves, or file
  cabinets. Assess each item's ease of rolling and/or falling along with its weight and
  shape to determine if the object is a potential safety hazard if left on top of any of the
  elevated locations identified in the previous list.
- Keep a minimum clearance distance of 18 inches between stored items and firesuppression sprinkler deflectors.
- Avoid storing boxes under tables or desks.
- Keep the paper cutter blade in its closed and locked position when not in use.
- Use UL-listed or equivalent supporting office equipment.
- Do not store combustible items near heating devices.

#### 3.17.5 Sharp Objects

Avoid placing broken glass or other sharp objects (e.g., coffee can lids) in general office waste containers unless wrapped or placed in another container. If possible, sharp objects, should be deposited directly into a dumpster. Store sharp/pointed objects (e.g., kitchen knives, scissors, paper cutters) in a manner that eliminates the possibility of injury.

## 3.17.6 Fire Protection Controls and Systems

Ensure that fire protection controls and systems are not compromised by:

- Maintaining appropriate clearance, in accordance with the manufacturer's recommendations, between equipment, combustibles, and any heat sources.
- Not blocking exits, exit paths, fire extinguishers, or fire sprinklers.
- Not blocking or propping open fire doors.

Contact ES&H or the FM for additional information on the safety of seasonal decorations.

#### 3.17.7 Lunchrooms/Food Storage Areas

Keep kitchens and eating areas in a safe and sanitary condition by:

- Using caution (e.g., covered containers, paper towels) to avoid burns from foods and liquids heated in microwave ovens.
- Placing knives in a separate drawer or using a divider in the drawer.
- Cleaning up all spills quickly and barricading the area to protect others from slips and falls when floors are wet.
- Placing all food waste in waste receptacles.
- Keeping microwaves, food preparation, and cooking areas clean.
- Removing food from the refrigerator before it spoils.

# 3.17.8 Badge Lanyard Safety

Only break-away badge lanyards are approved for use. Do not modify or tie knots that can affect the break-away function.

#### 3.17.9 Chair Safety

Use chairs safely, including:

- Not sitting in the chair while traveling across the floor.
- Holding the chair in place with your hands before sitting down.
- Not standing on a chair to reach overhead objects.
- Not overextending backwards in chairs.

#### 3.17.10 Office Parking Lots

- Observe posted signs, speed limits, cross walks, and lot stripes.
- Pedestrians have the right-of-way.
- Pedestrians should use designated and maintained walkways, when available.
- Look for vehicles moving in and out of parking stalls.

Avoid slippery conditions and report any unsafe condition to the FM.

#### 3.17.11 Exits

Ensure compliance with the following:

- Every building designed for human occupancy shall be provided with exits sufficient to permit the prompt egress of occupants in case of emergency.
- In areas determined to be hazardous (e.g., combustible/flammable storage rooms) or where employees may be endangered by the blocking of any single means of egress from fire or smoke, there shall be at least two means of egress remote from each other.
- Exits and paths leading to/from exits shall be kept unobstructed and accessible at all times.
- All exits shall discharge directly into the street or other open space that gives safe access to a public way.
- Exit doors swing open to the direction of exit travel.
- Exits shall be marked by readily visible, suitably illuminated exit signs. Exit signs are distinctive in color and provide contrast with surroundings. The word "EXIT" will be in plain legible letters and no less than six inches high.

Any door, passage, or stairway that is not an exit or a way of exit access but which is located or arranged in such a manner that it could be mistaken for an exit shall be identified by a sign reading "Not an Exit" or similar designation.

## 4.0 RECORDS

Records generated by this procedure shall be maintained in accordance with Y15-95-800, *UPF Document Management*. Record types for documents submitted to the UPF DMC are identified in ML-PS-801768-A001, *Uranium Processing Facility Project Master Document Type List*. Quality Type is listed as Quality-Lifetime (QA-L), Quality-Nonpermanent (QA-NP), or None-Quality (Non-QA).

Records generated during the performance of this procedure include:

Record Number	Record Title	Record Holder	System/ Location	Quality Type
UCN-23240	Chutes Inspection Sheet	UPF DMC	InfoWorks	QA-NP
UCN-23381	UPF Weekly Eyewash Inspection	UPF ES&H	Records Storage Area	Non-QA
UCN-23382	UPF Eyewash Station Change-out Inspection Log	UPF ES&H	Records Storage Area	Non-QA

#### 5.0 REFERENCES

#### 5.1 Source References

29 CFR 1926, Safety and Health Regulations for Construction

ANSI Z358.1-2014, American National Standard for Emergency Eyewash and Shower Equipment

ASTM F2413-18, Standard Specifications for Performance Requirements for Protective (Safety) Toe Cap Footwear

NFPA 101, Life Safety Code®

NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations

UPF-CP-211, Fire Prevention and Protection

Y17-95-64-837, UPF Housekeeping

Y17-95-64-894, Construction Job-Built Tooling

Y73-95-029, UPF Project Ergonomic Program

## 5.2 Interfacing References

Chekov Office Safety Inspection Checklist

CNS E-POL-1021, Cellular Telephone/Portable Electronic Device Motor Vehicle Safety Policy

ML-PS-801768-A001, Uranium Processing Facility Project Master Document Type List

ML-SH-801768-A001, UPF Color Code List for Documentation of Inspections

PL-CM-801768-A014, CNS / BNI Construction Work Area Access Requirements for UPF Construction

UPF-CP-205, Personal Protective Equipment and Safe Work Apparel

UPF-CP-214, Barricades and Signs

UPF-CP-225, Compressed Gas Cylinders, Liquefied Petroleum Gas, and Liquefied Inert Gases

UPF-CP-229, Vehicle Safety Management

UPF-MANUAL-CM-001, Uranium Processing Facility Construction Electrical Safety Manual

UPF-POLICY-CM-001, UPF Life Critical Requirements Policy

UPF-POLICY-CM-004, UPF Smoking/Tobacco Use Policy

Y15-95-235, UPF Command Media

Y15-95-800, UPF Document Management

Y17-95-64-822, UPF Site Excavation and Backfill

Y17-95-64-823, UPF Safety Task Analysis and Risk Reduction Talk/Job Hazard Analysis Program (STARRT/JHA) Process

Y72-95-003, Silica Exposure Control Procedure for Construction of the Uranium Processing Facility Project

Y73-059, Emergency Eyewash and Shower Equipment

Y73-95-100, *UPF Dropped Objects Prevention* Y79-001, Y-12 Fire Protection Program Manual

# 6.0 SUPPLEMENTAL INFORMATION

Appendix A, *Acronyms and Definitions*Appendix B, *Office Facility Hazard Awareness* 

# APPENDIX A Acronyms and Definitions

#### **ACRONYMS:**

**ASTM** American Society for Testing and Materials

CNS Consolidated Nuclear Security, LLC

DMC Document Management Center

ES&H Environmental, Safety, and Health

**FM** Facility Manager

**GFCI** ground fault circuit interrupter

IH Industrial HygieneJHA Job Hazard Analysis

**ROPS** Rollover Protective Structures

**SME** Subject Matter Expert

STARRT Safety Task Analysis and Risk Reduction Talk

UPF Uranium Processing FacilityY-12 Y-12 National Security Complex

#### **DEFINITIONS:**

None

# APPENDIX B Office Facility Hazard Awareness

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The scope of this Office Facility Hazard Awareness document is to provide hazard identification and potential controls for personnel working at or visiting UPF office facilities.

Key Activities	Potential Hazard Situations	Controls
Office parking lot travel	Driving into/out of parking lot	<ul> <li>Observe and obey posted speed limits</li> <li>Obey postings – yield to pedestrians</li> <li>Look for vehicles pulling in and out of the lot and personnel walking between vehicles</li> </ul>
	Entering/Exiting vehicle	<ul> <li>Pay attention to surrounding vehicles and personnel</li> <li>Be aware of weather conditions</li> <li>Keep at least one hand in contact with vehicle until firm footing is established</li> </ul>
	Walking through parking lot	<ul> <li>Avoid unnecessary slippery conditions (ice, water, oil, etc.)</li> <li>Keep eyes on path</li> <li>Avoid distractions such as:</li> <li>Reading while walking</li> <li>Talking on cell phones</li> <li>Watching activities not on path</li> <li>Wear appropriate footwear for conditions</li> <li>Walk defensively, looking for moving vehicles in immediate area (especially during high traffic times such as lunch and end of work day)</li> </ul>
Walking through doors	Struck by door  Loose or curled carpet/rugs and door thresholds – trip hazards	<ul> <li>Stay clear of door swing path</li> <li>Hold on to outside doors during strong winds</li> <li>Open doors slowly</li> <li>Use windows to ensure swing path is clear</li> <li>Push door with arm, not body</li> <li>Uncurl or reposition rug to eliminate tripping hazard.</li> <li>Notify FM of any torn or loose carpeting.</li> <li>Be aware of raised thresholds prior to walking</li> </ul>
Ascending and descending stairways	Falling up and down stairs  Swinging door	<ul> <li>through door.</li> <li>Ascend/descend one step at a time</li> <li>Ensure at least one hand free to hold handrail.</li> <li>Keep eye on path.</li> <li>Watch for doors opening into landings.</li> </ul>

# APPENDIX B Office Facility Hazard Awareness

(Page 2 of 4)

Key Activities	Potential Hazard Situations	Controls
Moving through the work areas	Walking through work area	<ul> <li>Avoid distractions such as reading or talking on cell phone</li> <li>Use caution when carrying hot food or liquids.</li> <li>Keep eyes on path</li> </ul>
	Walking around corners	<ul> <li>Pause and look around corner prior to proceeding where safety mirrors are not installed</li> <li>Use safety mirrors, where available, to view oncoming personnel</li> </ul>
Working in office	Struck on head by falling objects	<ul><li>Keep loose items off of high cabinets and shelves</li><li>Load shelves from bottom up</li></ul>
	Falling, same level from a chair or bench	<ul> <li>Keep all chair legs on floor at all times</li> <li>Report broken chair to FM for repair or tag for repair.</li> </ul>
	Ergonomics	<ul> <li>If workstation evaluation is required obtain help from ES&amp;H</li> <li>Avoid lifting while bending over</li> <li>Avoid twisting body while bent over, squatting or kneeling, particularly when carrying a load</li> <li>Avoid long intervals of bending, squatting or kneeling</li> <li>Avoid lifting heavy objects unassisted</li> <li>Obtain help with awkward packages regardless of weight</li> <li>Keep eye on path and pay attention to surroundings.</li> </ul>
Working in and around file cabinets	Struck by falling cabinet or walking into file cabinet drawers	<ul> <li>Load cabinets from bottom to top, distribute weight evenly.</li> <li>Open file drawers slowly, judging cabinet stability</li> <li>Keep eyes on path</li> <li>Close file cabinet drawers if you are not at the file cabinet</li> </ul>

# APPENDIX B Office Facility Hazard Awareness

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Key Activities	Potential Hazard Situations	Controls
Operating office equipment-	Operating equipment components (moving	Keep body from between pinch points on office equipment
computers, copiers, FAX	parts, doors, etc.)	Ensure protective guards are in place on equipment before using
machines, shredders, space heaters etc.		Keep all loose items (jewelry, clothing, hair) clear of machines with accessible moving parts
neatere etc.		Do not attempt repair on office equipment contact designated personnel
		Keep extremities clear of sharp edges
	Potential bodily harm and/or fire	Use only UL listed/labeled or equivalent heating devices
		Maintain safe distance when using a heating device for warmth
		Do not store items next to heating devices
		Do not leave heating device unattended
		Turn off heating device prior to leaving for the day
Walking to	Fall, same level due to	Walk on established walking/path ways
meetings from	slips and trips on	Follow signage
facility to facility	irregular or slippery terrain	Keep eye on path
	terrain	Avoid distractions such as:
		Reading while walking
		Talking on cell phones
		Watching activities not on path
		Wear appropriate footwear for conditions
		Avoid unnecessary slippery conditions (ice, water, oil, etc.)
Driving to meetings	Vehicle/pedestrian/ animal collisions	Inspect vehicle prior to use – ensure clear visibility from all windows
		Adjust mirrors and divers seat prior to operating vehicle
		Sound horn when backing, unless equipped with a backing alarm
		Drive defensively and obey posted speed limits and signage
		Drive according to the road/weather conditions
		Be aware of traffic revisions

# APPENDIX B Office Facility Hazard Awareness

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Key Activities	Potential Hazard Situations	Controls
Restroom	Struck by door	Open doors slowly and with caution.
	Slips, trips, and falls	Be aware of wet floors, notify FM of fixture malfunctions.
Lunch/Break Room	Slips, trips, and falls	<ul><li>Avoid slippery conditions</li><li>Clean up after yourself</li></ul>
	Burns from hot drinks and foods	Handle hot items with care, use caution when carrying hot food or liquids
		<ul> <li>Place covers over food containers or drinks, if possible, when carrying food or liquids</li> </ul>
		Pay attention to surroundings