UCOR

United Cleanup Oak Ridge LLC

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UCOR
United Cleanup Oak Ridge LLC

Safety and Health Handbook

Department of Energy
VPP

July 2023

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UCOR
United Cleanup Oak Ridge LLC

Safety and Health Handbook

July 2023

Prepared for the
U.S. Department of Energy
Oak Ridge Office of Environmental Management

United Cleanup Oak Ridge LLC
under contract 89303322DEM000067

SAFETY CONSCIOUS WORK ENVIRONMENT (SCWE) POLICY STATEMENT

This policy establishes the commitment of the U.S. Department of Energy (DOE) Oak Ridge Office of Environmental Management (OREM) and United Cleanup Oak Ridge LLC (UCOR) to foster and maintain a SCWE in all facilities and for all work. Safety includes protecting workers, the public, and the environment. This policy applies to all employees and contractors and is based on the following principles:

- Safety is a prerequisite for all work. Our expectation is that each employee goes home in the same condition that they came to work. ***Our goal is zero injuries.***
- All employees are encouraged and expected to promptly report all injuries, illnesses, and environmental incidents.
- All employees are encouraged and expected to have a questioning attitude and stop work if they feel a job cannot be done safely or the environment is threatened.
- All members of the OREM and UCOR leadership team, up to and including the OREM Manager and the UCOR President and Chief Executive Officer, have an open-door policy, especially pertaining to safety.
- Employees have, and are encouraged and expected to use, multiple venues to express safety concerns. These include but are not limited to their management chain and Employee Concerns.
- Employee involvement is the cornerstone of our safety culture and is essential to the successful implementation of the Integrated Safety Management System (ISMS); the Environmental Management System (EMS); nuclear safety, the Voluntary Protection Program (VPP); behavior-based safety; and other environmental, safety, health, and quality assurance (ESH&QA) program elements.

Employees are encouraged to raise safety issues and concerns without fear of reprisal. The OREM/UCOR leadership team will address and resolve issues and concerns in a timely manner while exhibiting behaviors that foster employee confidence in raising concerns.

OUR SAFETY CULTURE

Safety is a prerequisite for all work being performed by UCOR and our subcontractors. We are committed to ensuring the safety of our employees and protection of the environment as we work to clean up the Oak Ridge Reservation. Our ISMS brings together environment, safety, and health into management and work practices at all levels. Employee involvement is a critical component of this system. We empower employees to stop work whenever they feel unsure or that something is unsafe. We embrace a questioning attitude among our UCOR team members and encourage feedback and participation at all levels of the company. As we look toward the many upcoming tasks and challenges, safety will always be the foundation on which we build our success—***Every Task, Every Activity, Every Time.***

Ken Rueter

UCOR President and Chief Executive Officer

PURPOSE AND SCOPE

This handbook is designed to identify the general hazards and controls and the information and training resources needed for all employees to safely and compliantly perform their assigned UCOR activities. Work documents and procedures supplement this handbook for task-specific hazards and controls.

We always welcome constructive feedback that will improve our Safety and Health (S&H) Program. If you have a suggestion, discuss it with your supervisor and/or the Project S&H Operations Manager, UCOR Industrial Safety Manager, or UCOR Industrial Hygiene (IH) Manager.

If you have any safety-related questions, please contact your supervisor, the appropriate subject matter expert (SME), or the Project S&H Representative for further guidance.

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ACRONYMS

AC	Administrative Control
ACGIH	American Conference of Governmental Industrial Hygienists
ACM	Asbestos-Containing Material
AED	Automated External Defibrillator
ALARA	As Low As Reasonably Achievable
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
B/FEP	Building/Facility Emergency Plan
BEW	Building Emergency Warden
CA	Corrective Action
CBD	Chronic Beryllium Disease
CBDPP	Chronic Beryllium Disease Prevention Program
CFR	*Code of Federal Regulation*
CGA	Compressed Gas Association
CMV	Commercial Motor Vehicle
CONOPS	Conduct of Operations
CPE	Excavation Competent Person
DOE	U.S. Department of Energy
EAHJ	Electrical Authority Having Jurisdiction
EAP	Emergency Action Plan
EC&P	Environmental Compliance and Protection
ECP	Employee Concerns Program
EMWMF	Environmental Management Waste Management Facility
EPA	Environmental Protection Agency
ESH&QA	Environment, Safety, Health & Quality Assurance
ESWO	Emergency Services Watch Office
FDC	Fire Department Connection
FM	Facility Manager
GFCI	Ground-Fault Circuit Interrupter
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
HASP	Health and Safety Plan
HAZCOM	Hazard Communication
HMIS	Hazardous Materials Identification System
HPI	Human Performance Improvement
IH	Industrial Hygiene
iQP	iQuestion Program
ISMS	Integrated Safety Management System
JHA	Job Hazard Analysis
LA	Limited Area
LEARN	Local Education Administrative Requirements Network
LEM	Local Emergency Manual
LHCP	Licensed Health Care Professional
LO/TO	Lockout/tagout

LPG	Liquefied Petroleum Gas
LSIT	Local Safety Improvement Team
LSS	Laboratory Shift Superintendent
MAA	Material Access Area
MEWP	Mobile Elevating Work Platform
NFPA	National Fire Protection Association
NRTL	Nationally Recognized Testing Laboratory
OIG	Office of the Inspector General
OREM	Oak Ridge Office of Environmental Management
ORNL	Oak Ridge National Laboratory
ORRL	Oak Ridge Reservation Landfill
OSHA	Occupational Safety and Health Administration
OSLD	Optically Stimulated Luminescent Dosimeters
PA	Protected Area
PAM	Personal Air Monitoring
PASS	Pull, Aim, Squeeze, Sweep
PE	Professional Engineer
PF	ProForce/Protective Force
POC	Point of Contact
PPE	Personal Protective Equipment
PSIP	Personal Safety Initiative Plan
PSS	Plant Shift Superintendent
QEW	Qualified Electrical Worker
RP	Radiological Protection
RWP	Radiological Work Permit
S&H	Safety and Health
SCBA	Self-Contained Breathing Apparatus
SCC	Subcontract Coordinator
SCWE	Safety Conscious Work Environment
SDS	Safety Data Sheet
SIF	Serious Injury and Fatality
SIP	Safety Initiative Plan
SMA	Subject Matter Area
SME	Subject Matter Expert
SOC	Safety Observation Card
STARRT	Safety Task Analysis and Risk Reduction Talk
STSC	Safety Trained Supervisor Construction
TE	Technical Expert
TLV	Threshold Limit Values
TWA	Time-Weighted Average
TWRA	Tennessee Wildlife Resources Agency
UCOR	United Cleanup Oak Ridge LLC
VCES	Vehicle Construction/Equipment Spotter
VPP	Voluntary Protection Program
Y-12	Y-12 National Security Complex

ZERO ACCIDENT PHILOSOPHY AND CULTURE

UCOR is dedicated to the concept that ***all accidents are preventable***. Accordingly, the company is committed to achieving and sustaining "Zero Accident Performance" through continuous improvement practices.

Objectives

- Strive to eliminate all injuries, illnesses, and adverse impacts to the environment.
- Promote environmental, safety, and health objectives as a constant value in designing, planning, training, and executing work.
- Spread ownership for environmental, safety, and health program effectiveness throughout the organization.
- Enhance employee awareness and involvement in our environmental, safety, and health program implementation.
- Increase employees' consistent implementation related to conduct of operations (CONOPS).
- Effectively use human performance improvement (HPI) and human and organizational performance (HOP) systems to reduce errors, strengthen controls, and foster success through resilient defenses under changing conditions.
- Optimize the use of continuous improvement practices.
- Demonstrate to clients that UCOR is dedicated to excellence.
- Select qualified subcontractors and mentor them.

Ownership

- Senior management demonstrates leadership and supports employee engagement and organizational learning.
- All UCOR employees and contractors are empowered to implement a culture of caring, strive for operational excellence, and use pause/stop work authority whenever they perceive it is necessary.
- UCOR Functional Managers develop policy, provide technical direction, and coordinate supporting services in

partnership with the customers to help achieve safety excellence.

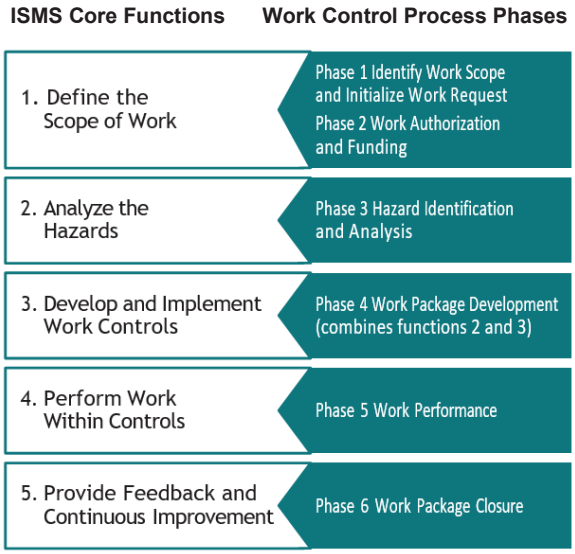
- The UCOR Chief Safety Officer develops and deploys safety and health (S&H) resources to support project and functional teams and provide guidance and assistance in implementing the strategy and principles of ISMS.
- The UCOR Environmental Compliance and Protection (EC&P) Program Manager develops and deploys EC&P resources to support project and functional teams and provide guidance and assistance in implementing the applicable regulatory, federal, and state requirements, including an Environmental Management System (EMS) that is implemented through the ISMS, to ensure protection of the environment and natural resources.

INTEGRATED SAFETY MANAGEMENT SYSTEM (ISMS) AND WORK CONTROL PROCESS

The objective of ISMS is to integrate S&H and EC&P controls into all levels of the work (including planning) through implementation of PROC-FS-1001, *Integrated Work Control Program*, so that workers, the public, and the environment are protected while our missions are accomplished.

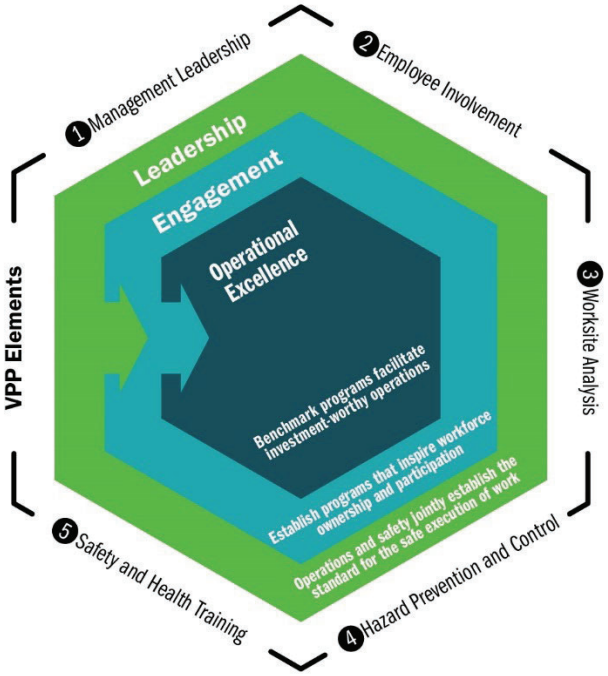
Eight Guiding Principles of ISMS

1. Line management responsibility for safety
2. Clear roles and responsibilities
3. Competence commensurate with responsibilities
4. Balanced priorities
5. Identification of safety standards and requirements
6. Hazard controls tailored to work being performed
7. Operations authorization
8. Worker involvement



SAFETY INITIATIVE PLAN (SIP)

UCOR continues to sustain superior performance through the implementation of a culture of caring and excellence. Safety Initiative Plans (SIPs) focus on measurable initiatives in the areas of leadership, employee engagement, and operational excellence. Each year, employees are challenged to fill out their own Personal Safety Initiative Plan (PSIP), which helps them think critically about focus areas relating to their personal safety and the safety of their teammates.



HUMAN PERFORMANCE IMPROVEMENT (HPI)

UCOR actively seeks to set up each worker and task for success versus failure. Workers are asked to look for error-likely situations (when multiple error precursors are present) and implement tools at appropriate times to reduce the probability, frequency, or consequences of errors. Although UCOR recognizes human error is inevitable because all humans are fallible, improved process systems management and analysis should provide dividends and lessen the effect of human error through the promotion of and resilience of defenses that reduce risk.

Following is a table of the most common HPI/work control tools for individuals and teams that can be utilized to effectively reduce errors and incidents.

Tools for Individuals	Tools for Teams
Job-site Review	Pre-job Briefing
Questioning Attitude	Verification Practices—Peer-checking (Concurrent and Independent)
Stop When Unsure	
Self-Checking	
Procedure Use and Adherence	Flagging
Effective Communication	Effective Turnover
Place-Keeping	Post-job Review

On the following page is a table of some of the most common error precursors to watch out for on the job.

HPI Question

Identify three error precursors from the table on the following page that you are likely to encounter while on the job. Which tools from the above table can you use to help reduce the risk of errors occurring and set yourself and your team up for success?

Error Precursors	
Task Demands	Individual Capabilities
Time pressure (in a hurry)	Unfamiliarity with task/first time
High workload (memory requirements)	Lack of knowledge (mental model)
Simultaneous, multiple tasks	New technique not used before
Repetitive actions, monotonous	Imprecise communication habits
Irrecoverable acts	Lack of proficiency/inexperience
Interpretation requirements	Indistinct problem-solving skills
Unclear goals, roles, and responsibilities	“Hazardous” attitude for critical tasks
Lack of or unclear standards	Illness/fatigue
Work Environment	Human Nature
Distractions/interruptions	Stress (limits attention)
Changes/departures from routine	Habit patterns
Confusing displays or controls	Assumptions (inaccurate mental picture)
Workarounds/out-of-service instruments	Complacency/overconfidence
Hidden system response	Mindset (“tuned” to see)
Unexpected equipment conditions	Inaccurate risk perception (Pollyanna)
Lack of alternative indication	Mental shortcuts (biases)
Personality conflicts	Limited short-term memory

PAUSE/STOP WORK AUTHORIZATION

All UCOR and contractor employees have the authority and responsibility to pause/stop work at any time. Without fear of reprisal, employees are encouraged to approach all work with a high degree of inquisitiveness and to satisfy themselves that it is safe to proceed.

Management empowers all employees to refuse to perform work that is unsafe, even if directed to do so by supervisors, customers, or other prime contractors on shared sites. Work that is suspected or proven to place workers, the public, or the environment at risk shall be stopped until it is made safe to proceed.

Pause/Stop Work Questions

The influence of others has the potential to sway one's decision to pause/stop work. Ask yourself or your team:

- How can you overcome peer pressure from others who hesitate to pause/stop work?
- How can you show your support for a coworker who is initiating a pause/stop work?

MISSION READY

Our Mission Ready Program serves as a platform to improve communications and foster employee engagement. The program is designed to reduce injuries and illnesses by stressing the importance of being appropriately trained and physically and mentally prepared to work safely. This team-centered program also promotes the concept of being a good wingman by maintaining a heightened degree of situational awareness and supports UCOR's goal to reduce injuries and illnesses on the job to zero.

Mission Ready also helps prepare each of us to look out for our teammates. It requires each of us to ask ourselves and our teammates if we are mentally prepared, physically prepared, and have the training needed to perform work safely. Those who are not Mission Ready must be willing to speak up.

TRAINING

UCOR training ensures that all employees and contractors are prepared to carry out our client's mission by incorporating cutting edge technology and rigor into all training programs.

Training is based on a graded approach to ensure employees and contractors are trained and qualified in accordance with their responsibilities—ISMS Principle #3, "Competence Commensurate with Responsibilities."

Training Question

If you have questions about training, name at least three ways/people that could help you obtain the information you need.

SAFETY TRAINED SUPERVISOR CONSTRUCTION (STSC)

All employees are responsible for safety.

The STSC certification is available to all qualifying members of the workforce. Obtaining the certification provides organizational recognition for your safety knowledge and leadership abilities. Please speak with your supervisor if you are interested in pursuing this certification.

SUBJECT MATTER EXPERTS (SMEs)

SMEs serve as the primary point of contact (POC) with the appropriate DOE program office and serve as the UCOR single POC for the specific subject matter area (SMA). A list of current SMA SMEs is available on the UCOR intranet to assist UCOR teams as the interpretative authority for the SMA under their purview.

S&H PROGRAM TECHNICAL EXPERTS (TEs)

TEs are available to UCOR and can provide a technical resource for internal questions relating to a specific topic. A list of program names and TEs is available on the UCOR intranet.

LOCAL SAFETY IMPROVEMENT TEAMS (LSITs)

LSITs provide an avenue for employees to contribute to the safety program, promote continuous safety improvement, promote safety awareness and sharing of lessons learned (LL), and provide an intense focus on safety issues from an employee perspective. The LSITs encourage employee feedback and involvement, foster open communication, and develop mutual trust and confidence among employees at all levels.

LSIT Questions

- What are three benefits of being an active participant in LSIT?
- How can an LSIT leadership role help an individual experience professional growth?

SAFETY OBSERVATION CARD (SOC) PROGRAM

The purpose of the LSIT-owned safety observation program is to:

- Encourage worker engagement.
- Identify and recognize positive safe behaviors and/or practices.
- Proactively prevent injuries and illness in the workplace.

LSITs review and work with management and safety to identify corrective actions (CAs) necessary to resolve at-risk observations. Participants may submit observations anonymously if they prefer.

All workers are encouraged to have a conversation with a coworker if they observe a positive safety behavior, potential at-risk condition or behavior, or at-risk condition or behavior that is corrected on the spot.

To document these observations, workers are encouraged to complete a SOC. UCOR provides multiple ways to submit a SOC, including:

- Printed copies available across UCOR work areas, with collection boxes for anonymous submission that are collected by LSITs.
- From the UCOR intranet home page, click “S,” then “Safety Observation Card (SOC) Application.”
- From your mobile device with the SOC QR code:

iQUESTION PROGRAM (iQP)

The iQP, which is administered by the LSITs, is designed to recognize people who exercise a questioning attitude. Any member of the workforce is encouraged to nominate another member whom they observe exhibiting a questioning attitude. Nominations can be submitted:

- From the UCOR intranet home page, click “I,” then “iQuestion Program (iQP).”
- From your mobile device with the iQuestion QR code.

NOTE: Scanning QR codes is prohibited at the Y-12 National Security Complex (Y-12).

EMPLOYEE CONCERNS PROGRAM (ECP)

All personnel have a right and responsibility to openly and freely express work-related concerns. The UCOR ECP is a supplemental, independent avenue for prompt identification, reporting, and resolution of concerns. Concerns may relate to, but are not limited to, safety, health, quality, security, the environment, or management practices; waste, fraud, or abuse; or harassment, intimidation, retaliation, or discrimination resulting from raising concerns or engaging in protected activities.

Personnel are encouraged to first report concerns to their supervisor/line management at the lowest level possible, which is typically the most effective way to resolve issues. However, if issues or problems cannot be resolved between the individual and supervisor/line management, or if the individual prefers to address concerns anonymously and confidentially, they may contact the ECP. Personnel are encouraged, but not required to, report concerns internally. Methods to raise a concern include:

- Call the Anonymous UCOR ECP Hotline: (865) 241-8267 or (toll free) 1-888-584-8329.
- Anonymous Email: *ECPHotline@orcc.doe.gov* (use an anonymous email address).
- Mail a written concern to UCOR ECP, P.O. Box 4699, Oak Ridge, TN 37830; or send via plant mail to 701 Scarboro, MS-7402, Room 3-27.
- Visit the Employee Concerns Satellite Office in K-1225, Room 123.
- Visit the Employee Concerns Main Office at 701 Scarboro, Room 3-27.
- Call the UCOR Ethics Helpline: (865) 574-1850 or (504) 982-6265.
- To file a complaint under the DOE Whistleblower Protection Program: Call the DOE Environmental Management Consolidated Business Center (EMCBC) at (513) 744-0968 or call the DOE Office of the Inspector General (OIG) hotline at 1-800-541-1625.

WORKPLACE VIOLENCE

UCOR's goal is to provide a safe work environment for all employees; therefore, ***UCOR will not tolerate any violence or threat of violence within the work environment***. UCOR policy POL-HR-308, *Workplace Violence Prevention*, provides the definition(s) of violence and describes the actions to take should you observe or be the victim of violence within the work environment.

Examples of violence include:

- Harassment
- Physical attack
- Property damage
- Threat
- Violent behavior
- Workplace bullying

Employees who engage in or threaten violent behavior will be subject to discipline, up to and including termination. Supervisors will be subject to disciplinary action if they fail to report acts of violence or threats of violence brought to their attention. Additionally, UCOR will not tolerate any retaliation or disciplinary action against any employee who reports threats.

If you are the victim of, or witness to, an immediate threat of harm or injury—immediately call 911. If you have been the victim of or have witnessed other acts of workplace violence, immediately report it to your supervisor, Human Resources, the UCOR Emergency Services Watch Office (ESWO) at (865) 574-3282 or (865) 574-4911, or the UCOR ECP Hotline at 1-888-584-8329.

*****YOU CAN REPORT ANONYMOUSLY*****

Commit to a violence-free workplace.
If you see something, don't ignore it. Report it.

PROHIBITED ITEMS

The following articles are *prohibited* on DOE property:

- Explosives
- Dangerous weapons
- Instruments or material likely to produce substantial injury to persons or damage to persons or property
- Controlled substances (e.g., illegal drugs and associated paraphernalia but not prescription medicine)
- Other items prohibited by law

Controlled articles such as portable electronic devices, both government and personally owned, capable of recording information or transmitting data articles (radio frequency, infrared, and/or data link electronic equipment) are not permitted in Limited Areas (LAs), Protected Areas (PAs) and Material Access Areas (MAAs) without approval by Physical Security.

Examples of **controlled articles** are:

- Cell phones
- Cameras and associated storage media
- E-readers and MP3 players
- Laptops
- Devices with Bluetooth capabilities (e.g., fitness trackers, watches, headsets)

UCOR TOBACCO POLICY

UCOR prohibits tobacco use of any kind, including chewing tobacco, cigarettes, e-cigarettes, personal vaporizers, electronic nicotine delivery systems, or any other type of smoking material in any DOE facility or government-furnished vehicle managed by UCOR or UCOR subcontractors.

- Smoke only in designated smoking areas. Discard smoking materials only when extinguished and in designated containers.
- Avoid smoking in entranceways, areas where large groups of people gather, and areas that could vent into buildings or vehicles.

ACCIDENT PREVENTION

The S&H practices described in this handbook have been developed in alignment with UCOR's commitment to accident prevention. Effective implementation of and compliance with safe work practices are critical to the protection of workers, customers, vendors, and the public. It is each person's responsibility to know the regulatory and procedural guidance they are required to follow.

Accident Prevention Questions

- What can be done to help prevent accidents in the workplace?
- Who is responsible for safety?

OSHA Focus Four Hazards

The Occupational Safety and Health Administration (OSHA) "Focus Four" concentrates on four of the worst hazards workers encounter on worksites:

- Elevated work/fall hazards
- Caught-in/caught-between
- Struck-by events
- Electrocution

Implementation of the UCOR ISMS through robust CONOPS, application of hazard recognition skills, and questioning attitudes can prevent the occurrence of events related to the Focus Four Hazards. Ensuring the safety and health of all UCOR team members requires each of us to be Mission Ready.

OSHA Focus Four Questions

- Before beginning work, identify which of the Focus Four Hazards apply.
- How can you eliminate or control each of the hazards identified?

Serious Injuries and Fatalities

What is a serious injury and fatality (SIF)?

A SIF event is an incident or near miss that results in or has the potential to produce a fatal or life-altering injury or illness.

To prevent SIFs, it is necessary to identify and mitigate error precursors. Precursors are conditions, events, or actions that, if not mitigated, can result in a serious accident. Precursors serve as warnings.

Review high-risk work scopes (often related to OSHA Focus Four) and ask yourself:

- Are documents with controls present?
- Are developed controls effective to protect workers?
- Are workers in compliance with developed controls?
- Does everyone present have the knowledge and training to work safely?

An answer of “No” to any of the questions would indicate an error precursor and a situation that needs to be more closely examined before beginning work.

SIF Question

Think about SIFs and OSHA’s Focus Four. How are they related?

Basic S&H Practices

All work performed by UCOR is evaluated for safety hazards. The evaluations are performed through the Job Hazard Analysis (JHA) process and other reviews by SMEs. Pre-job briefings such as pre-evolution (pre-ev) briefings and Safety Task Analysis and Risk Reduction Talk (STARRT) Card briefings identify the hazards and how to safely accomplish the work prior to beginning work tasks.

- Pre-ev briefings and STARRT Card briefings should provide a level of detail appropriate to worker training, experience, and skills. New or subcontract personnel may require a greater level of detail when explaining the scope and the hazards of the planned work activity.
- Know how to do your job safely. If you do not know how, pause what you are doing and contact your supervisor.
- Be an active participant in safety. Actively engage in work planning, pre-ev briefings, STARRT Card briefings, Safety Focus meetings, and so on.
- Be alert to changing conditions.
- If the activity could endanger yourself, others, or damage nearby equipment or materials, take the necessary steps to reduce/eliminate the risk. ***Pause/stop work if necessary***.
- Follow applicable S&H policies, procedures, and work documents, as well as posted signs.
- Understand and follow the manufacturer's instructions/ guidelines and/or company procedures before using equipment.
- Ensure the work area is sufficiently lit.
- Wear personal protective equipment (PPE) properly, and when and where required.
- Keep work areas clean and orderly. Continually check for hazards.
- Pay attention and engage during training.
- Report all unsafe conditions, acts, and near-miss incidents to your supervisor.
- Immediately report all occupational injuries or illnesses to your supervisor and UCOR Health Services.

- Be aware of your surroundings.
- When a fall hazard exists, maintain 100% fall protection through elimination, fall prevention systems, personal fall restraint, and/or fall arrest systems.
- Become familiar with and understand project and UCOR emergency procedures.
- Use proper manual lifting techniques and/or mechanical assistance to prevent injury.
- Do not leave materials, scraps, or tools where they may be hazardous to others. Keep your work area clean.
- Obey all signage and tags (e.g., “Radiation Area,” “Contamination Area,” “Construction Area,” “Eye Protection Required,” “Authorized Personnel Only”).
- Wear high-visibility/reflective safety apparel when walking or working around heavy equipment and when otherwise required.
- Do not engage in horseplay.

Pre-Task Planning

Pre-task planning is required for fieldwork. The purpose of pre-task planning is to identify hazards and to develop controls to eliminate or reduce those hazards so that work can be performed safely.

Your involvement in pre-task planning is an essential part of ISMS and helps ensure work is performed safely.

Some of the tools used to ensure effective implementation of the hazard assessment process include the JHA, STARRT Card, Plan of the Day (POD) meeting, and the *Pre-evolution Briefing Checklist* (Form-851). *Ensure that you have a pre-task plan in place before you begin work*.

ACCIDENT PREVENTION SIGNS, BARRICADES, AND OTHER POSTINGS

UCOR procedure PROC-EH-1013, *Accident Prevention Signs, Barricades, and Other Postings*, provides information and direction to UCOR and subcontractors on the use of barricades, placards, signage, or other postings to:

- Isolate areas where safety hazards may exist.
- Control personnel access to specific areas.
- Alert personnel to potential hazards and prompt the implementation of required controls.
- Deter unsafe work practices.

PROC-EH-1013 does NOT cover:

- Controls required for floor and wall openings and roof edges (requiring protective barricades).
- Posting instructions for radiological or fissile areas/ materials.
- Unique postings/control requirements for asbestos, lead, etc., that exist in other program documents.

EMERGENCY AND EVACUATION PROCEDURES

Being prepared for an emergency can mean the difference between life and death. Understand your part in responding to an emergency. Alarm types, emergency reporting protocol, and phone numbers are in the EMERGENCY SIGNALS section beginning on page 85.

Planning for an Emergency

- Become familiar with UCOR's emergency procedures specific to your work area including Building/Facility Emergency Plans (B/FEPs), Health and Safety Plans (HASPs), Local Emergency Manuals (LEMs), and Emergency Action Plans (EAPs).
- Anticipate potential emergencies for your jobsite and know how to respond.

- Participate in drills. Know take-cover and assembly point locations.
- Locate the nearest exit and know how to reach it.
- Identify a plan for emergency rescue.
- Identify and know how to contact the nearest rescue organization.
- Know locations of emergency equipment (e.g., fire extinguishers, automated external defibrillators [AEDs], fire pull boxes).

Reporting an Emergency

When you report an emergency, provide the following information:

- The nature of the emergency—fire, medical, hazardous material release, need for Protective Force (PF/ProForce)
- Your name and phone number
- Location (address) of the emergency

Answer all questions to the best of your ability and stay by the phone/radio to wait for further instruction. **DO NOT HANG UP**. Be prepared to send a runner to meet responders.

Questions on Reporting an Emergency

- Why is it important to know the emergency response number for each unique UCOR location?
- Think about your work locations. If you summoned emergency response services, where you would tell them to meet you or a runner who would lead them to the distressed individual?

Evacuation Procedures

A work area may be evacuated for numerous reasons. Know your designated evacuation route and assembly station area. During an evacuation, remember to keep talking to a minimum. Move quickly (do not run) to your designated assembly station. Follow the directions of Building Emergency Wardens (BEWs), and do not return to your work area until instructed to do so by authorized personnel.

Question on Evacuation Procedures

Think about your work locations. What is the primary exit route in a fire? Is there a secondary route if primary route is blocked?

Accident Scene

If you are already present or the first to arrive at an accident scene, do not attempt to enter an area if your own safety cannot be assured. Do not move the victim unless there is imminent danger and it is necessary to prevent further injury (e.g., fire, chemical exposure, or falling objects). Call appropriate rescue personnel for help, remain calm, and reassure the victim that help is on the way.

Automated External Defibrillators

Employees may use an AED and administer first-aid treatment in accordance with their training and confidence level. More information can be found in PROC-MD-8564, *Automated External Defibrillators (AEDs)*. Employees who come in contact with blood should report the incident to UCOR Health Services for evaluation and appropriate medical treatment. Personnel may be protected by the Tennessee Good Samaritan Law if acting in good faith without direct compensation for the life-saving services. While Adult First Aid, CPR & AED training is encouraged and available to all UCOR personnel, it is not required prior to the use of an AED in an emergency. UCOR AEDs provide visual and audio prompts for the entire resuscitation process.

AED Question

For each of your work areas, where is the closest AED?

Fire and/or Smoke

Employees shall have basic knowledge of fire prevention procedures, fire classifications, and the appropriate extinguishing agents. When fire or smoke is discovered, sound an alarm. Alert workers closest to the fire to move to the nearest evacuation point or to the predetermined assembly area.

If there is heavy smoke, get down below the smoke level and crawl to the nearest exit or safe assembly area. Always check closed doors for heat before opening and o not open if the door is hot! Summon emergency response services. Only attempt to fight a fire within your comfort and capability, within the capability of the extinguisher, and if you have an escape path.

Fire Classifications

- **Class A -** Ordinary combustible materials such as wood, paper, or cardboard: Water or dry chemical powder is a good extinguishing agent.
- **Class B -** Flammable liquids and gases, such as gasoline, solvents, paint thinners, grease, liquefied petroleum gas (LPG), and acetylene: Dry chemical powder, foam, and CO_2 gas extinguishers work best on flammable liquid fires.
- **Class C - Fires in energized electrical equipment:** CO_2 and dry chemical powder extinguishing agents can be used on electrical fires. Do not use water or foam, as they are electrical conductors.
- **Class D - Fires in combustible metals:** A special extinguishing agent is required.

Fire Classification Table

Class	Extinguishing agents				
	Water	CO_2	Foam	ABC dry chem.	Special agent
A - Wood, paper, & trash	X			X	
B - Flammable liquids, gasoline, oil, and paint		X	X	X	
C - Electrical		X		X	
D - Combustible metals					X

The PASS Method for Extinguishing Small Fires

If trained to use a fire extinguisher, use the **PASS** method—Pull, Aim, Squeeze, and Sweep.

PASS Method Question

If you make the decision to use a fire extinguisher, why it is critically important to understand its limitations and capacity?

General Fire Prevention

Per PROC-FP-2006*, UCOR Program for Controlling Combustibles and Ignition Sources*, keep your work area neat and free from fire hazards. Combustible materials shall be removed from the area at the end of the work shift, or more frequently if necessary, and the following guidance shall be followed:

- Dispose of unnecessary combustible materials.
- Combustible waste materials shall be stored in metal containers (55-gal drums, dumpsters, roll-offs, B-25 boxes, etc.) until removal/disposal.
- Only solvents identified in the JHA are to be used for cleaning and degreasing. The use of gasoline and similar flammable products for this purpose is strictly prohibited.
- Flammable and combustible liquids shall be handled only in approved, properly labeled safety containers, or containers approved by Fire Protection Engineering.
- Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in appropriate covered disposal containers.
- Do not attempt any work involving a source of ignition near a pit, sewer, drain, manhole, trench, or enclosed space where flammable gases may exist or may have been present without IH first performing an evaluation and verification.
- Open fires are strictly prohibited.

FIRST AID, INCIDENT REPORTING, AND WORKER HEALTH

Per PROC-EH-2001*, Injury/Illness Reporting and Investigation,* immediately report all injuries, no matter how minor, to your supervisor. If you experience a work-related injury or illness that was not reported before leaving the worksite, contact your supervisor as soon as possible. If unable to reach your supervisor, call UCOR Health Services at (865) 574-8562 or ESWO at (865) 574-3282 or (865) 574-4911 to obtain any care necessary.

The UCOR Subcontract Coordinator (SCC) must be notified immediately of subcontractor work-related incidents, including injuries, vehicle accidents, property damage, and near-miss incidents.

Per POL-UCOR-308, *Returning to Work Safely*, prior to returning to work after a nonoccupational injury or illness resulting in either hospitalization, outpatient surgery (of any duration), or absence of 40 or more consecutive work hours, you must present Form-900, *Health Care Provider's Information for Employee's Return to Work*, completed by your outside attending physician, to UCOR Health Services.

Pregnant employees are encouraged to notify their supervisor in writing using Form-1050, *Pregnancy Declaration*, as soon as they become aware of the pregnancy. This will allow UCOR to maintain the dose received by the embryo/fetus to as low as reasonably achievable (ALARA) and within applicable limits.

INCLEMENT WEATHER

Workers may be exposed to weather conditions such as high winds, extreme heat or cold, severe thunderstorms, and snow/sleet/ice accumulation. Work activities that may be affected by adverse weather conditions shall be evaluated by the supervisor Project S&H Rep and Facility Manager to determine impacts on workers.

Outside work shall be stopped for 30 min. or until an “all clear” announcement is made when visible lightning is in the area or there is a ESWO, Y-12 Plant Shift Superintendent (PSS), Oak Ridge National Laboratory (ORNL) Laboratory Shift Superintendent (LSS), or other notification of lightning in the area. Buildings shall be the primary shelter locations. Enclosed

vehicles/ equipment is acceptable if attempting to reach a building poses a greater hazard.

If a tornado warning is declared, an announcement will be made by the best available means of communication. Workers should cease activities and take shelter in a sturdy building until further notice.

If weather-related conditions develop during the night that warrant a delayed opening or official closing of the site, ESWO will provide information through a recorded message on the UCOR Information Line, (865) 241-4636 or (865) 241-INFO, and through the Mass Notification System.

You can sign up to receive alerts* by emailing the following information to ESWO at *ESWO@orcc.doe.gov*:

- Name (required)
- Badge number (required for employees; for ETTP private businesses, enter N/A)
- Company
- Mobile phone number
- Work email
- Home email

**You can unsubscribe from alerts at any time.*

Inclement Weather Questions

- Have you signed up for mass notifications? How can that process be facilitated?
- Where is the shelter area for your work location(s)?

MEDICATIONS

Prescription medications shall not be taken on the job unless prescribed by a physician or other Licensed Health Care Provider (LHCP).

In accordance with PROC-HR-0306, *Drug and Alcohol Control*, and POL-HR-306, *Drugs and Alcohol*, certain medical or psychological conditions may require prescription or nonprescription medications that could impair reaction time, impact judgment, cause dizziness or drowsiness, or adversely affect your ability to work safely. You must notify your supervisor and the UCOR Site Occupational Medical Director that you are taking such prescription medication(s) or make an appointment to speak with a UCOR Health Services professional. If you are unsure whether a medication should be reported, please contact UCOR Health Services at (865) 574-8562.

You do not have to report over-the-counter medications unless you are having side effects that could affect your ability to work safely.

SUBSTANCE ABUSE

UCOR strives to maintain a safe work environment, free from illegal drug and alcohol use. The possession, sale, use, or distribution of prohibited substances or related paraphernalia is strictly prohibited.

Violation of POL-HR-306 may result in disciplinary action up to, and including, suspension, retest, and discharge.

If you suspect a coworker is under the influence of a substance that could impair their ability to work safely, notify your supervisor immediately.

OFFICE SAFETY

- Do not run electrical, telephone, or office machine cords through walkways or in any area where they could present a tripping hazard or be damaged.
- Do not use chairs or other office equipment as a stool or stepladder.
- Use proper body posture when lifting and carrying objects. Bend at the knees and use leg muscles.
- Do not tilt back in a straight chair. Always keep all of the chair legs firmly on the ground.
- Keep work areas, passageways, and stairways free of debris, equipment, and materials.
- Keep lunch and eating areas clean.
- Open file drawers one at a time, and keep drawers closed when not in use.
- Load file drawers from the bottom up with the heaviest load in the lower drawer.
- Anchor file cabinets and bookshelves as needed to maintain stability.
- Do not remove guards or safety devices from office equipment such as paper cutters, laminators, printers, etc. If discovered in this condition, do not use. Remove from service and contact your supervisor.
- Inspect office furniture regularly. Remove from service if unsafe.
- Only Qualified Electrical Workers (QEWs) shall repair electrical equipment.
- Do not overload electrical circuits by plugging in too much equipment. Tripped circuit breakers shall only be reset by a QEW after the cause has been determined and it is safe to reenergize the circuit.
- Do not adjust or clean power-driven office machines when in operation or energized. This includes printers, copiers, paper shredders, etc.

- Never plug high-current loads such as vacuum cleaners, space heaters, coffeepots, toasters, hot plates, or other heating appliances into power strips or extension cords. Ensure those items are turned off at the end of the work shift.
- Power strips are intended for indoor use as multiple outlet extensions of a single branch circuit and may be used to provide power for desktop equipment, audio/visual equipment, and other such devices.
- Inspect electrical cords for damage and remove them from service if defective.
- Do not piggyback or daisy-chain extension cords or power strips. Only a single extension cord or single power strip will be used to connect a device to the power source.

TELEWORK SAFETY

- Prior to initiating telework, Form-3505, *Flexible Workplace Program—Telework Request*, must be completed and approved.
- Use Form-3548, *Telework Safety Checklist,* to evaluate and identify hazards within the intended workspace and correct any safety deficiencies.
- Contact your supervisor and Project S&H Rep if hazards cannot be resolved.
- Ensure your workstation is ergonomically positioned to avoid eye strain or musculoskeletal fatigue.
- Shut off equipment when not in use.

PEDESTRIAN SAFETY

Workers face multiple hazards while walking to and from parking lots, buildings, and worksites. Use the following controls to reduce the potential for incident/injury:

- Walking is working. Keep your eyes on path.
- Remove the distractions of talking or texting on a cell phone; this includes using hands-free devices (e.g., earbuds, headsets) while walking.

- Avoid reading documents or looking at coworkers while walking.
- Hold the handrail when ascending and descending stairs and ramps.
- Watch for damage, debris, and spills in your path of travel. If you see something, say something and do something.
- Wear reflective clothing when required. If you are unsure, contact your supervisor, the Facility Manager (FM), or Project S&H Rep.
- If available, use designated walkways and crosswalks. If on the side of a road, walk facing oncoming traffic.
- Do not allow your line of sight to be impaired by what you are carrying. Use assistance such as a lift or a cart.
- Apply ice melt if icy conditions exist, as long as doing so does not compromise personal safety.

INFECTIOUS DISEASE PREVENTION AND CONTROL

For your health and the health of coworkers, do not come to work if you are experiencing any new symptoms that could likely result from a communicable and infectious disease and/or if you have a fever. If these symptoms arise while at work, socially distance, notify your supervisor, and leave work in accordance with requirements of PPD-IH-5102, *Communicable and Infectious Disease Prevention and Control Program*.

Use good hygiene practices while at work, including washing hands regularly.

INDUSTRIAL HYGIENE (IH)

Hazards and Controls

Where the potential exists for exposure to hazards (physical, chemical, or ergonomic), UCOR will evaluate the work area and may implement IH exposure monitoring and controls.

Physical Agents

These include excessive levels of noise, temperature extremes, nonionizing radiation, vibration, etc. Personnel who may come in contact with physical agents shall be provided with adequate training, shielding, or protection depending on the hazard involved.

Chemical Agents

These arise from potential airborne emissions or release of mists, vapors, gases, or solids in the form of dusts or fumes. The primary routes of entry to the body are inhalation, ingestion, injection, and absorption. If you believe you have received an exposure through any route of entry, notify your supervisor immediately and contact UCOR Health Services.

Ergonomic Hazards

These include improperly designed tools, work areas, or work procedures; improper lifting or reaching; poor visual conditions; or repeated motions in an awkward position that could result in injury. Vibration is a physical hazard that can create or worsen ergonomic injury. Some tools and tasks require additional controls because they involve worker exposure to high vibration. Engineering and good design principles must be applied to eliminate these hazards. Selection of the proper tool is also critical to eliminate these hazards. Contact your Project IH for assistance.

Ergonomic Hazards Question

What are the most likely ergonomic injuries for the work you conduct? Identify the control set needed to protect against injury.

HAZARD COMMUNICATION (HAZCOM)

Depending on job duties, employees receive different levels of HAZCOM training. Training includes the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). If you have any questions regarding hazardous materials, contact your supervisor or your Project IH.

Common materials such as concrete products, paint, solvents, compressed gases, and lubricants can be potentially hazardous substances. To be protected from hazardous substances, you must understand and follow the written HAZCOM Program. Follow storage, use, and disposal instructions on the product label, safety data sheet (SDS), and/or project-specific guidance.

Training

Training is one method of conveying HAZCOM information to identified workers. Training requirements are included in PROC-IH-5140*, Hazard Communication.*

Container Labeling

Primary containers of hazardous materials shall contain the following information on the label:

1. Material name
2. A GHS pictogram conveying the hazards
3. A signal word such as “Danger” or “Warning”
4. A hazard statement to describe the hazard class and category
5. A precautionary statement of what to do to minimize or prevent adverse effects of exposure or improper storage/handling
6. Contact information (name, address, and telephone number) of the chemical manufacturer or responsible party

Approved secondary containers (that a material has been transferred into from its original packaging) shall be labeled with at least the material name and an appropriate hazard warning (e.g., “Flammable”), including target organ effects (e.g., lung damage).

All personnel shall read labels to become familiar with the products being used. *Never use unlabeled substances; report them to your supervisor immediately!*

GHS Pictogram Chart

Appropriate pictograms should be found on the primary container label of hazardous chemicals in the workplace.

Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	**Flame**  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	**Exclamation Mark**  • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  • Gases Under Pressure	**Corrosion**  • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	**Exploding Bomb**  • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  • Oxidizers	**Environment** (Non-Mandatory)  • Aquatic Toxicity	**Skull and Crossbones**  • Acute Toxicity (fatal or toxic)

Hazardous chemicals may have additional legacy labeling information such as National Fire Protection Association (NFPA) or Hazardous Material Information System (HMIS) graphics. Be aware of the differences in numbering between those and the GHS system of numbering.

NFPA "Fire Diamond"

Hazardous Materials Usage and Storage

For work activities involving the use of hazardous materials, appropriate PPE will be specified in the JHA, STARRT Card, or as directed by the Project IH.

Hazardous and/or toxic materials such as solvents, coatings, or thinners shall be stored in approved containers. Original shipping containers that satisfy local safety regulations are considered approved containers for transporting and storing these materials. Hazardous or toxic materials shall be returned to the appropriate designated storage areas by the end of each shift. Flammable chemicals must be stored in flammable storage cabinets when not in use.

Chemical Spills

All chemical spills shall be contained and cleaned up immediately to prevent further contamination. Generally, sweeping, vacuuming, mopping, and/or the use of absorbent materials are recommended for cleanup operations. Chemicals identified as

hazardous by federal and state agencies require special handling procedures. Contact Project IH to ensure proper PPE is selected and utilized during spill response. Spill response PPE may differ from product usage PPE.

Use **SWIMS** as a general response guideline:

- **Stop** the spill (if safe to do so).
- **Warn** others.
- **Isolate** the area.
- **Minimize** personnel exposure.
- **Secure** the area and stand by to assist responders.

Notify the FM as soon as safely possible.

Safety Data Sheets

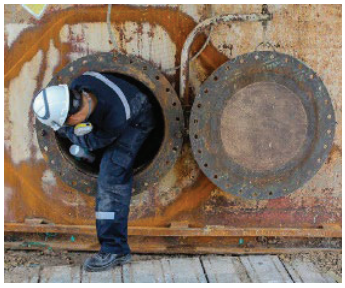
UCOR maintains SDSs for hazardous materials on the jobsite. They contain information about the hazardous properties of materials and measures you should take to protect yourself.

These documents are stored on the ORNL Hazardous Materials Management Information System SDS Library found on the UCOR intranet under “Safety Data Sheets.” You can also request SDSs from your supervisor.

HAZCOM Questions:

- What are the risks of not labeling secondary containers properly?
- If you want to find out information about a chemical, how can you do that?
- Who should be contacted when chemicals are spilled in a work area?

CONFINED SPACES



Confined spaces include, but are not limited to, storage tanks, process vessels, storage bins, hoppers, pits, boilers, ventilation or exhaust ducts, storm drains, water mains, vaults, and other pre-cast concrete units.

Confined spaces are large enough for a person to enter, have limited means of entry and exit, and are not designed for people to continuously work in. *Some hazards that can be present in confined spaces are oxygen deficiency, a flammable or toxic atmosphere, electrical, noise, engulfment, entrapment, and mechanical hazards*.

Always ensure a confined space entry has been properly evaluated by a Confined Space Competent Person per PROC-IH-5138, *Confined Space Entry.* Permits must be readily accessible near the entrance and must be signed by the Entry Supervisor, FM, and Confined Space Competent Person.

- ***NEVER*** enter a confined space without authorization from your employer. ***Only people who have completed confined space training shall enter a confined space.*** Prior to entry, atmospheric-testing personnel will evaluate the space for atmospheric hazards.
- If atmospheric hazards are present, it may be necessary to ventilate the space and/or use atmosphere-supplying respirators.
- All sources of hazardous energy must be locked out.

Never enter a confined space to attempt to rescue someone. Rescue Services personnel are specially trained to provide confined space rescue as needed.

RESPIRATORY PROTECTION

The UCOR Respiratory Protection Program is implemented through PPD-IH-5151, *Respiratory Protection Program*. When hazardous or toxic materials are present, efforts shall be made first to use engineering controls and area ventilation to reduce airborne concentrations of these materials. Where airborne concentrations cannot be reduced below acceptable limits, UCOR will conduct an evaluation to determine the appropriate method of respiratory protection.

Ensure that you understand and observe respiratory protection program requirements. The basic program includes but is not limited to learning:

- Why the respirator is necessary and how improper fit, usage, or storage can compromise the protective effect of the respirator.
- Limitations and capabilities of the respirator.
- Cartridge change schedules and end-of-service-life indicators.
- What to do if a respirator malfunctions while in use.
- How to inspect, don and doff, use, and check the respirator and respirator seals.
- Respirator maintenance and storage requirements.
- How to recognize medical signs and symptoms that may limit or prevent use of respirators.

Each employee wearing a respirator must be medically qualified, fit-tested, and trained in the use, maintenance, and limitations of the respiratory protection selected. Report any changes in your health and/or physical characteristics that may affect your ability to wear respiratory protection to UCOR Health Services or other LHCP providing medical surveillance.

Atmosphere-supplying respirators (supplied-air and SCBA) shall meet the requirements for Grade D breathing air described in the

American National Standards Institute (ANSI)/Compressed Gas Association (CGA) G-7.1, *Commodity Specification for Air.*

HEARING CONSERVATION

Hearing protection is required for individuals working in a posted noise area. As a rule of thumb, if you are unable to speak to someone in a normal voice at arm's length and be clearly heard and understood you may need to use hearing protection.

Hearing protection may also be required where excessive noise exposure exists on a temporary basis. This could include situations where equipment such as a jackhammer, saw, drill, grinder, or heavy equipment is being utilized.

If questions about noise levels and/or hearing protection arise, contact the Project IH.

All personnel shall observe the following measures:

- UCOR shall post areas where noise levels exceed established limits, even on a temporary basis, and shall provide you with adequate hearing protection. This protection may include muffs, plugs, or a combination thereof.
- Employees in UCOR's Hearing Conservation Program shall be trained on effects of noise; purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types; instructions on selection, fitting, use and care; and purpose of audiometric testing and explanation of the test procedures.
- For personnel required to wear earplugs, remember to use clean hands to avoid getting dirt and germs into your ears, and follow manufacturer's instructions when putting them in.
- Always wear your hearing protection in designated areas. Hearing protection will be utilized when there is a potential employee exposure above the 8-hour time-weighted-average (TWA) sound level of 85 dBA or an equivalent noise dose.

Hearing Conservation Questions

- What is a good rule of thumb when working in noisy areas?
- Who should be contacted if you believe a work area needs a hearing protection evaluation?

Protect yourself and others to prevent accidents and injuries at work due to the inability to hear warning signals.

TEMPERATURE EXTREMES

PROC-IH-5134, *Temperature Extremes,* provides information on planning and work controls related to both extreme heat and cold temperatures. The following are general temperature-extreme controls:

- If the ambient temperature is anticipated to exceed 80°F, then use Form-1165, *HEART Card*.
- If wearing limited-use vapor barrier coveralls (e.g., Saranex®, Tychem QC®) and the ambient temperature is anticipated to exceed 55°F, then perform physiological monitoring and indicate job-specific controls on the reverse of the form.
- If using a work-rest schedule, follow the work allocation in minutes each hour and document on Form-1165.
- To establish a control strategy that will prevent heat stress illnesses, coordinate with supervision and Project IH personnel to:
  - Use administrative and engineering controls and minimize dependence on PPE to control heat stress.
  - Start work early in the day.
  - Ensure proper hydration and nutrition.
  - Recognize that personal illness or medications may limit individual's ability to work in heat stress environments.
  - Watch for signs of heat illness (heat cramps, heat exhaustion, heat stroke) in yourself and in others. ***Heat stroke is a medical emergency—call 911 and cool the worker until emergency responders arrive.***

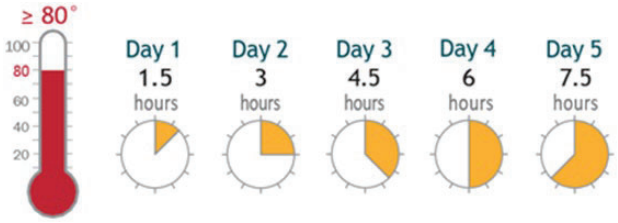
— Monitor and respond to physiological indicators of heat strain or stress (heart rate, body temperature).

— After long periods of not working in the heat or after an illness, slowly acclimate back into work in the heat. ***See the chart below for suggested acclimation schedules.***

- For prolonged work at equivalent chill temperatures at or below 39°F, Project IH shall evaluate for additional total body protection.

Report any personal or coworker symptoms of heat- or cold-related illness immediately. *Summon emergency response services if necessary.*

Recommended Hours of Work in Heat When Acclimating



Temperature Extremes Questions:

Heat illnesses can become a medical emergency in a matter of moments. It is vital to know the signs and symptoms within yourself and a coworker.

- What are personal decisions/things you can do to prepare your body to work in the heat?
- How does your project prepare for hot weather work? Is water readily available on each jobsite?
- Are you or any or your coworkers taking medication(s) that could impact your tolerance to heat? If uncertain or yes, contact UCOR Health Services.

ASBESTOS HANDLING/REMOVAL

Activities that may disturb asbestos-containing materials (ACM) must be evaluated prior to starting work. These materials must be identified and evaluated by a competent person prior to disturbance. Suspect ACM may include pipe insulation, roofing, fireproofing, plaster, transite, floor tile, ceiling tile, mastics, etc.

All personnel involved with handling, removal, demolition, and/or disposal of ACM shall comply with PROC-IH-5177, *Asbestos and Other Fibrous Materials,* OSHA, U.S. Environmental Protection Agency (EPA), state of Tennessee, and other standards governing the activity.

Personnel working with asbestos must be properly trained, monitored for potential exposure, and medically evaluated. Engineering controls and PPE shall be utilized to prevent exposures in excess of established limits.

EPA asbestos requirements, which include written notification prior to removal, utilization of emission controls, and special handling and disposal procedures, shall be followed.

Only personnel trained and authorized shall be assigned to activities that potentially disturb asbestos.

If you observe an uncontrolled suspect ACM, then back away and notify your supervisor and Project IH.

BERYLLIUM

Beryllium is a metal that is used in weapons production, thermal reactors and energy research in the aerospace, defense, and nuclear industries. DOE has a long history of beryllium use with broad application in many nuclear operations and processes.

Common uses of beryllium include neutron moderators or reflectors in nuclear reactors, fuel element cladding, irradiated fuel rods, fuel improvement experiments, nuclear weapons components, and non-sparking beryllium alloy tools.

Uncontrolled exposure to beryllium dust, oxide, and fume can cause chronic beryllium disease (CBD) in sensitized individuals.

Workers employed in potentially beryllium-contaminated facilities are governed by 10 *CFR* Part 850, *Chronic Beryllium Disease Prevention Program.* UCOR has established PPD-IH-6000, *Chronic Beryllium Disease Prevention Program* (CBDPP), which reflects the requirements of 10 *CFR* Part 850 and is designed to reduce the potential for worker exposure. The CBDPP includes work control methods, personnel exposure limits, exposure monitoring, access control to beryllium work areas, training requirements, respiratory protection and PPE requirements, housekeeping, and waste disposal requirements, posting and labelling requirements, release criteria, and medical surveillance requirements.

Only medically cleared, qualified Beryllium Workers are authorized to work in Beryllium Regulated Areas or Beryllium Controlled Areas (BCAs).

BIOLOGICAL HAZARD PROTECTION

Workers may potentially be exposed to biological hazards in the course of their work and in some cases during basic movement around the site.

Stinging and Biting Insects

Office and field workers are potentially exposed to stinging and biting insects such as wasps, hornets, yellowjackets, fire ants, ticks, and venomous spiders.

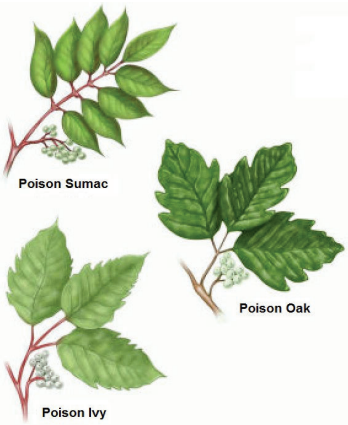
- Consider notifying your supervisor or coworkers if you have known allergic reactions to bites/stings, especially if you carry an epinephrine auto-injector.
- Be on constant lookout for insect habitats and avoid them if possible.
- Notify the FM to have any observed nests treated.
- Bites or stings must be reported immediately and evaluated by UCOR Health Services.

- Inspect clothing and skin carefully after being in a likely exposure environment.
- Use protective clothing and repellents when appropriate.

Snakes and Rodents

If nuisance wildlife is interfering with operations or has entered a building, contact your EC&P Lead to arrange for Tennessee Wildlife Resources Agency (TWRA) personnel to remove the wildlife. *Contact with or bites from nuisance wildlife must be reported immediately and evaluated by UCOR Health Services*.

Plants



Primary plant hazards are from poison ivy, oak, and sumac. The urushiol oil released from the plant begins to penetrate the skin within 10 minutes of contact and may have a delayed reaction. The oil can be transferred to the skin by an intermediate object such as a tool, glove, or clothing that has been in contact with the plant. Avoid skin contact with these objects until washed with an emulsifying soap/detergent.
Clean/wash the affected area of skin immediately after exposure, report the exposure to supervision, and seek medical evaluation from UCOR Health Services.

WORKING OVER OR NEAR WATER

For employees working over or near water, a determination of drowning danger requires the evaluation of such factors as water type (pool, river, canal, etc.) and depth, presence or absence of a current, work height above or away from the water surface, the use/nonuse of fall protection for work over water, and the need for a lifesaving skiff and ring buoys to ensure prompt rescue. Contact

the Project S&H Rep for the appropriate control set when working over or near water.

When a flotation device is determined to be required, a U.S. Coast Guard-approved life jacket or buoyant work vest will be provided. Individuals are responsible for inspecting the jacket or vest prior to and after each use for defects that would alter strength or buoyancy. Defective units shall be removed from service.

Any member of the UCOR workforce who operates a boat must have successfully completed the TWRA-issued Boating Safety Exam. No other certification will be accepted as meeting the requirements of this law.

RADIOLOGICAL PROTECTION (RP)

Radiological work incorporates effective dose and contamination reduction and control measures through planning. Planning is performed in accordance with a graded approach and includes controls directed toward reducing exposure to ALARA, preventing the spread of contamination, and minimizing the generation of contaminated waste. Personnel entry control is maintained for all radiological areas based on the hazards and work scope. Entry is controlled through signs, barricades, control devices, and administrative controls (ACs) such as Radiological Work Permits (RWPs). All employees are expected to:

- Stop and look for radiological postings, signs, and ropes for every area entry. *Conditions routinely change!*
- Know the radiological worker training, RWP, and dosimetry requirements for the area. Ask RP when unsure.
- Read and understand the RWP requirements for the work scope before entering any radiological area. Review the radiological survey for the work area and sign the RWP.
- During any required RWP pre-job brief, ensure understanding of dosimetry, PPE, respiratory protection, personal air monitoring (PAM), hold points, and limitations.
- Do not enter radiological-posted areas unless you have received the appropriate training.
- Do not loiter, smoke, or eat in posted radiological areas.
- Only take required equipment or supplies into a radiological area to minimize potential radiological waste.

- Take actions to reduce personal exposure through use of fundamental concepts of time, distance, and shielding.
- When exiting posted areas, follow doffing protocols and ensure prescribed personnel monitoring is performed. Notify RP if any contamination is detected.
- It is the responsibility of all workers to wear personnel monitoring devices such as optically stimulated luminescent dosimeters (OSLDs) where required by RWPs, signs, procedures, or by RP personnel.

COMPETENT PERSON

Per OSHA, a "competent person" is one who has the experience and knowledge needed to identify existing and predictable hazards and has the authority to take immediate corrective action to eliminate them."

UCOR will designate competent person(s) as required by the activity or task. Examples of jobs or areas that require a competent person include:

- Excavation and trenching
- Ladder inspection (quarterly)
- Asbestos abatement
- Lead abatement
- Silica
- Scaffolding
- Fall protection
- Hoisting and rigging equipment inspection
- Material/personnel hoists and elevators
- Confined space evaluation

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Hazards should always be controlled by elimination, substitution, engineering controls, work practices, and/or ACs prior to selecting PPE as the control method. The proper selection and use of PPE is an important element in preventing work-related injuries. PPE will provide a level of protection against injury and illness only when maintained and used correctly. Be aware of and follow the PPE requirements identified in PROC-EH-2005, *Personal Protective Equipment*, in JHA or other applicable work control documentation (permits, procedures, etc.), and in workplace postings. When PPE is specified for certain work assignments or locations, its use is mandatory.

You must also wear specified clothing suitable for the work you are performing. Check with your supervisor for specific requirements for your work area.

Head Protection

All employees, visitors, and vendors shall wear a hard hat or approved helmet in designated/posted areas. Alterations shall not be made to the hat or its suspension. Hard hats and/or suspensions shall be replaced per manufacturer's recommendations or when they are broken or cracked.

The hard hat must be specifically suited to the type of hazards present in the work area, such as falling or flying objects, impact hazards, electrical shock, and/or burn hazards. The headband must be adjusted to fit snugly. The bill of the hat shall be worn in the front to protect the eyes from small debris and particles that may fall onto the hat.

Hard Hat Care and Inspection

Always store your hard hat in a clean, dry area. Never use paint, solvents, hydrocarbon-type cleaners, glue, or pens on a hard hat. These substances can cause serious damage that may not be visible upon inspection.

On a daily basis, visually inspect the hard hat shell and suspension for breakage, cracks, craze (spider-webbing) pattern, discoloration, chalky appearance, or any other unusual condition. Also, inspect the shell for brittleness by flexing the brim. Any of these conditions indicates a loss of protection from impact and electrical conductivity. ***The equipment MUST be replaced immediately.***

Eye and Face Protection

Some of the most common injuries to the eye and face result from flying particles. Eye injuries can also result from molten metal, chemicals, gases, or radiant energy. Selecting and using proper eye and face protection can prevent these injuries.

Where eye protection is required, workers who wear corrective lenses must either wear ANSI Z87.1 (*American National Standard for Occupational and Educational Personal Eye and Face Protection Devices*)-compliant prescription safety glasses with side shields, or safety glasses with side shields that fit over their corrective lenses. ***Ordinary prescription glasses, unless made of safety glass mounted in safety frames, DO NOT provide adequate protection from hazards encountered in the workplace.*** Ordinary lenses can shatter, showering the user's eyes with debris; and ordinary frames are not strong enough to protect against impact.

Inspect eye protection daily for breakage, cracks, craze (spider-webbing) pattern around the nosepiece, scratches, discoloration, missing nosepiece, or any other unusual condition. If damage is observed, remove from service until repaired or replaced.

Selection and Use of Eye and Face Protection

A minimum of safety glasses with side shields are required in construction areas where there are potential eye hazards, such as flying or falling objects, excessive airborne dust, chemical splash, concrete chipping, metal grinding, or harmful rays. Some areas of the project may require eye protection upgrades according to the hazards present.

Check with your supervisor or task-specific JHA to determine the required eye protection.

Safety Goggles

Safety goggles shall fit tight to the face, surrounding the eye area to provide extra protection from splashes, impacts, and sparks. They must be worn as required by IH when handling chemicals such as acids and bases, irritating fumes and mists, cryogenics, corrosive gases, and when there are severe hazards from flying particles.

Face Shields

Face shields are worn when maximum protection is needed for the face and neck from flying particles and chemical splashes. Face shields are NOT intended to provide full eye protection. When full-face protection is needed, approved safety glasses with side shields or goggles are also required under a face shield.

Hand Protection

Gloves are made from various materials, each providing protection from a specific type of hazard such as abrasion, cut, puncture, temperature extremes, vibration, electrical, and chemical. ***No single glove offers protection from all hazards.*** Your supervisor or Project S&H Rep can assist in selecting the right glove for the task. You may also consult UCOR's glove chart or matrix for the specific glove choices available.

Keep your hands out of pinch points and out of the "line of fire."

Foot Protection

Protective footwear as described in PROC-EH-2000, *General Safety Requirements*, offers protection from falling objects, punctures, crushing, slipping, and electrical shock.

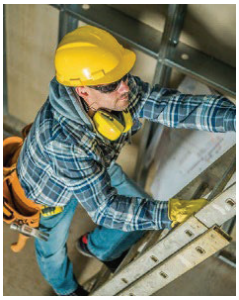
Safety toe shoes/boots or sturdy leather work shoes/boots (dependent on the JHA or other work-control documentation) are required in construction areas. Be sure that safety footwear has the ASTM International (ASTM) F2413, *Standard Specification for Performance Requirements for Protective (Safety) Toe Cap Footwear*, label. Rubber boots may be approved in specific situations to limit exposure to chemicals and provide improved traction on slippery surfaces.

Boots should be inspected daily for deterioration, sole condition, and deterioration of the laces. Boots with worn-out tread or other damage-impairing function need to be replaced or repaired.

PPE Questions

- Why is it necessary to inspect work footwear on a daily basis?
- What components should be inspected?

FALL PREVENTION AND PROTECTION



PROC-EH-2006, *Fall Prevention and Protection*, states all persons, including subcontractors, shall adhere to a program that provides 100% fall protection compliance. Any work to be performed more than 4 ft (OSHA 1910, Subpart A, *General*) or 6 ft (OSHA 1926, *Construction*) above a lower level without primary fall protection shall be evaluated by S&H and controls implemented prior to initiating work.

The hierarchy of fall prevention/protection is to make every attempt to first eliminate the need for elevated work, then use passive fall protection systems before using active fall protection systems:

- Before using any active fall protection system, you must have received training on how to properly use and maintain your fall arrest system and equipment, how to determine safe anchorage points, and how to establish a rescue plan.
- Fall arrest anchor points must have adequate fall clearance, and the anchor point must be capable of supporting 5000 lb or two times the maximum arresting force if certified by a qualified person.
- The user is required to carefully inspect all fall protection equipment before each use. Always check the full body harness for proper fit.

The following additional controls apply to working at heights:

- Employees working overhead of other employees shall protect the employees below from overhead hazards (e.g., with netting, toeboards, signs, or barricades).
- Material shall be raised or lowered, where applicable, in a canvas bag attached to a well wheel or by hand. Material that is larger than the bag shall be properly rigged or secured and raised or lowered one item at a time.
- Radios shall be secured in a radio holster attached to an individual's belt, clipped to the belt, taped securely, or attached to a lanyard.
- Employees working overhead shall establish barriers and signs when applicable, with consideration for trajectory/bounce of falling material.
- If employees cannot be adequately protected, the Field Supervisor/Lead shall administratively control the falling object hazard by removing the employees from the line of fire (below overhead work).
- When winds are predicted greater than 20 mph, secure loose outdoor materials.

Fall Prevention and Protection Questions

Consider these basic questions before performing work at heights:

- Has the work area been evaluated for proper controls?
- Have the controls to protect workers been documented and approved?
- Is training up to date?
- Do you have the proper equipment as defined in approved controls?

EXCAVATIONS AND TRENCHING

Excavation and trenching operations will conform to PROC-FO-1004, *Excavation/ Trenching Permitting;* PROC-FO-3034*, Earth Moving Equipment Operation;* and standards outlined in 29 *CFR* Sect. 1926.651, "Specific excavation requirements," and Sect. 1926.652, "Requirements for protective systems*."* To prepare a site for excavation and/or trenching:

- Determine if a permit is required per PROC-FO-1004.
- Identify underground structures and utilities prior to digging.
- Personnel working in or around trenches must have completed Local Education Administrative Requirements Network (LEARN) Module 31888, *Excavation Safety Awareness*.
- Prior to digging, the operator shall complete Form-3445, *Excavation Operator Pre-dig Checklist*.
- **NEVER** enter an excavation until approved by the qualified and authorized Excavation Competent Person (CPE).
- Prior to worker entry into an excavation, daily and after each rain, snow, freeze, etc., or significant change related to work activities the CPE will document inspection on Form-913, *Competent Person Excavation Safety Checklist*.
- Atmospheric testing shall be performed by atmospheric-testing personnel if there is a potential for a hazardous atmosphere within the excavation.
- Work in excavations must cease if evidence of cave-ins or slides is apparent until necessary precautions have been taken to safeguard workers.
- Excavations 4 ft or greater must have a safe means of access/egress as close to the worker as possible, but not to exceed a distance of 25 ft.

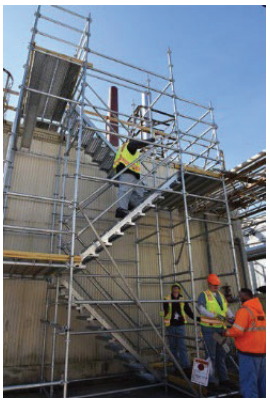
- Excavations 5 ft or greater shall be evaluated by a CPE for use of protective systems (e.g., sloping or trench box can be determined by the CPE, benching and shoring must be determined by a professional engineer [PE]).
- Benching shall be evaluated and approved by a registered PE.
- Sloped excavations shall be at an angle no steeper than 1½ to 1 horizontal to vertical unless evaluated and approved by a registered PE.
- Shoring shall be in good condition as determined by the registered PE, shielding (trench box) shall be in good condition as determined by the CPE, and both shall meet requirements of 29 *CFR* Sect. 1926.651–652.
- Spoils shall be placed a minimum of 2 ft from the edge of the excavation. Precautions must be taken to prevent such materials from falling into the excavation.
- Excavations must be designed/protected against applied loads from vehicles or equipment operating near excavations or trenches. Stop logs or other substantial barricades must also be installed at edges of such excavations.
- Barriers shall be used to prevent personnel from falling into open trenches. Walkways, bridges, and ramps to allow crossing of an excavation or trench 6 ft deep or more shall have standard guardrails.

SCAFFOLDING

Scaffolds or work platforms shall only be erected, moved, dismantled, or altered by trained scaffold erectors under supervision and direction of a competent person.

- Scaffold user training is required prior to accessing a scaffold.
- Scaffold erectors will utilize fall protection during erection or dismantling activities when working at elevations higher than 10 ft and the use of such protection does not create a greater hazard as determined by a Fall Protection Competent Person.

- Scaffolds shall not be erected, used, altered, dismantled, or moved such that they or any conductive material handled on them might come within 10 ft of any exposed and energized power line or bus duct, as specified in PROC-FO-1015, *Scaffolds and Ladders*. Contact the Utility Power Distribution SME and/or Electrical Authority Having Jurisdiction (EAHJ) for input on scaffold placement and safety-related work practices where contact with exposed electrical conductors could exist.
- Install barricades to control access when scaffolds are being erected or disassembled.
- A competent person shall document inspection of scaffolds before each work shift on the scaffold tag. A red scaffold tag shall remain in place on a scaffold that is under construction until a competent person inspects and applies either a yellow or green scaffold tag.
- Never use a scaffold unless the green or yellow tag has been completed for the schedule shift. Follow all special precautions stated on yellow tags.
- Toprails, midrails, and toeboards shall be installed on all open sides of scaffolds.
- All scaffolds shall be fully planked with scaffold planks, cleated, or secured with boards extending over the end supports by at least 6 in. but not more than 12 in.
- Access ladders shall be provided for each scaffold. Climbing the end frames is prohibited unless their design incorporates an approved ladder.
- Barrels, boxes, buckets, and similar unstable objects shall not be used as work platforms or to support scaffolds.
- Ensure tools, materials, and debris do not accumulate on scaffolds in a manner that creates a falling object or tripping hazard.



PORTABLE LADDERS

Ladder safety begins with the selection of the proper ladder for the job and includes inspection, proper setup and use, care, and storage.

Ladder training is required prior to using a portable ladder.

General Safety Rules for All Ladders

Your supervisor should provide several types of ladders for your use. Using a makeshift means of access is prohibited!

Ladder Selection

Work from a portable ladder will be the exception when no other method is feasible. Feasibility should be driven by assessing total risk and not based on ease or convenience.

- Manufactured ladders (including step stools) must have a minimum ANSI Type 1A rating with 300-lb capacity (Class 1A). Ensure the combined weight of user and equipment does not exceed the rated capacity.
- Select a ladder that will put you at the appropriate working height without overreaching or standing on the top step or cap of a stepladder or the top three rungs of a straight/extension ladder.
- Nonconductive fiberglass ladders shall be used in situations where the employee, tools, or the ladder could contact exposed energized parts.

Note: Platform ladders made of metal may be used per the restrictions listed in PROC-FO-1015.

Ladder Inspection

Always inspect a ladder prior to use per PROC-FO-1015. Ensure the load rating is visible and the ladder is within the quarterly inspection date on the sticker/tag.

Never use a damaged ladder. Tag it out, report it to your supervisor, and remove it from service.

Ladders shall be inspected and tagged quarterly by a competent person.

Ladder Setup

Portable ladders in use shall be tied, blocked, held, or otherwise secured to prevent displacement. Prior to setting up a ladder, survey the area overhead for electrical wires and other impediments, and the ground for stability and for slip and trip hazards. Place ladder feet firmly and evenly on the ground or floor. Make sure the ladder is straight and secure before climbing it. Do not allow ladders to lean sideways.

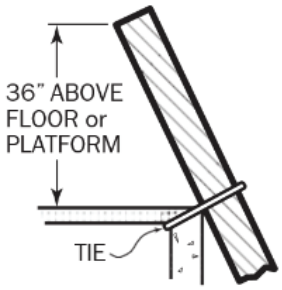
Keep all portable ladders and conductive materials, tools, or equipment at least 10 ft away from unguarded energized lines up to 50 kV and an additional 4 in. for every 10 kV over 50 kV. A safe working clearance between portable ladders and exposed and energized bus duct shall be a minimum of 10 ft.

Be aware of and protect against an increased fall hazard if using ladders in close proximity to edges or guardrails. Additional guardrails or fall protection may be required.

Ladder Use

- Face the ladder when ascending or descending and maintain three points of contact.
- Keep the steps and rungs clean. Also, clean your shoes before climbing a ladder.
- Do not hand-carry tools or materials while ascending or descending a ladder. Use a tool belt or rope to raise and lower tools/equipment.
- Always reposition the ladder to avoid overreaching. Keep your center of gravity between the sides of the ladder.
- Set up extension ladders in a 4 to 1 vertical to horizontal ratio, with the top resting evenly against a flat, firm surface.
- Ensure that the side rails of extension ladders extend at least 36 in. above the landing when being used to access the landing. When this is not practical, grab rails will be installed.

- The ladder shall be secured to prevent accidental movement or slippage. All ladders in use shall be tied, blocked, held, or otherwise secured to prevent displacement.
- All ladders shall be equipped with safety feet.
- Ladders must not be placed against movable objects.



- Stepladders shall be fully opened to permit the spreader to lock. Never use them leaned against a wall or object.

Fixed Ladders

Ensure a current inspection tag is present and visually inspect permanent fixed ladder prior to use. If a ladder is not in good condition or presents other significant hazards, alternative means of access shall be provided.

Truck Stands/Platforms

An inspection shall be performed and documented on a daily inspection tag prior to access.

FLOOR, WALL OPENINGS, AND STAIRWAYS

Floor Openings

Floor openings shall be barricaded or securely covered to prevent accidental displacement. Label or mark all floor-hole covers as "**HOLE**" or "**COVER**" with 2 in. or larger letters.

If it is necessary to work inside the barricade around a floor opening, you must use an approved active fall protection system.

Wall Openings

Wall openings from which there is a drop of more than 4 ft (OSHA 1910, Subpart A, *General*) or 6 ft (OSHA 1926, *Construction*), and where the bottom of the opening is less than 39 in. from the working surface (floor), shall be guarded by a standard guardrail or equivalent.

Every open-sided floor or platform 4 ft or higher in general industrial/operational areas or 6 ft or higher in construction areas above the adjacent floor or ground level must be guarded by a standard guardrail or equivalent.

Stairways

Every flight of stairs having four or more risers or rising more than 30 in. shall be equipped with a handrail. The handrail is to be used when ascending and descending the stairs.

HOUSEKEEPING

Housekeeping is a benchmark of an effective S&H program. It is the responsibility of all employees to keep work areas clean. Good housekeeping practices reduce slip and trip hazards and fire hazards (accumulation of combustible material) and improve emergency egress capability.

- Keep walkways and doorways clear, unobstructed, and free of electrical cords, boxes, and equipment at all times.
- Scrap materials are fire and accident hazards. If an excess of these materials exists in your work area, notify your supervisor to arrange for their removal.
- Trash containers should be located throughout work areas and routinely emptied.
- Where hazardous substances are involved, it may be necessary to provide special labelled containers for each type of waste. Items such as bulbs, batteries, and aerosol cans shall not be disposed of in normal trash containers.
- Tools and materials should be placed where they will not create a hazard for others.
- Spilled liquids can cause safety or health problems and should be cleaned up immediately. If you need assistance, notify your supervisor.
- Remove all protruding nails, staples, screws, or other objects from lumber or other building materials that present a hazard to employees or vehicles.

MATERIAL HANDLING AND STORAGE

Materials shall be properly stacked and secured to prevent sliding, falling, or collapse. Aisles, stairs, and passageways shall be kept clear for the safe movement of employees and equipment, and to provide access in emergencies.

Handling

Use proper techniques and body positioning when handling materials. In general, use mechanical means or a team lift if the item is over 30 lb:

- Plan the lift, including the travel path and where the load will be set.
- Establish good footing before attempting to lift.
- Keep your back straight. Do not lean over.
- Bend your knees; get down close to the load.
- Lift gradually, using your legs. Do not jerk or twist.
- Get help for bulky or heavy loads.
- Whenever possible, use mechanical aids to reduce the amount of lifting you are required to do.

Material Handling Questions

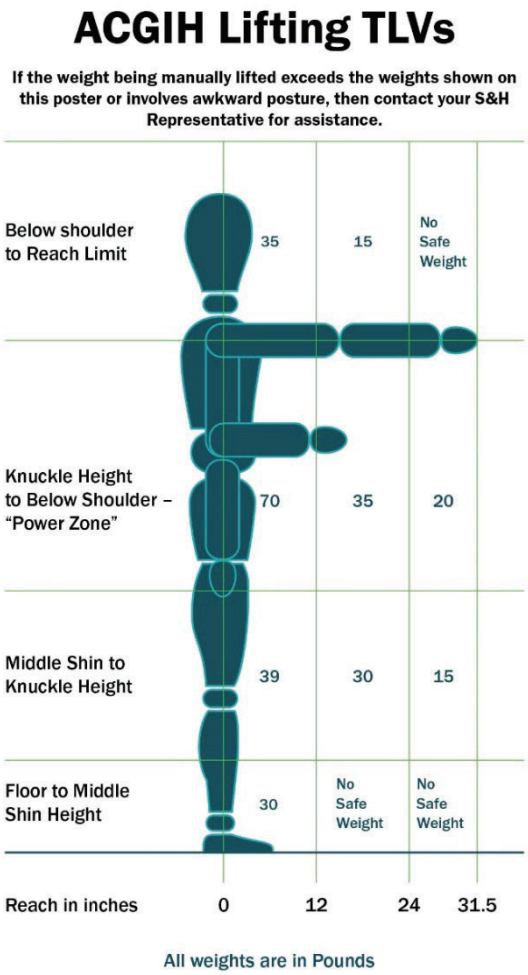
- What is an item that may not exceed 30 lb but is so awkward that either mechanical means or a team lift should be used?
- If a team lift will be used, what items should be discussed by the team lifters beforehand?

ACGIH Lifting Threshold Limit Values (TLVs)

Use these instructions in conjunction with the diagram on the following page:

- Identify the hand position at the start and end of lift.
- Determine the weight that corresponds to the start and end hand positions on the figure below.

- The lower of the two weights corresponding to the start and end hand positions is the established American Conference of Governmental Industrial Hygienists (ACGIH) TLV.



Notify your supervisor if you feel you cannot lift an item safely.

Storage

When storing materials inside structures or buildings:

- Maintain walkways, aisles, stairways, and passageways in a clear and unobstructed condition.
- Keep storage areas clean and materials neatly stacked or placed.
- Keep walkways and doorways clear, unobstructed, and free of electrical cords, boxes, and equipment at all times.
- Do not block or obstruct access to electrical panels. Clear access is required in the event of an emergency.
- Store materials in a manner that does not obstruct access to fire protection equipment such as pull boxes, fire extinguishers, sprinkler system risers, control valves, fire doors, alarm devices or panels, exterior building fire department connections (FDCs), or aisles and hallways that serve as a means of egress.

Storage Question

What hazards are created when materials are stored in walkways, aisles, or on stairways?

POWER AND HAND TOOLS

General

- Tools shall be inspected daily prior to each use to ensure that they are in proper working order. Damaged or defective tools must be tagged and taken out of service immediately.
- You must comply with the manufacturer's instructions.
- Power saws, grinders, drill presses, and other power tools shall have proper guards in place at all times.
- All grinding wheels, wire brushes, and flapper wheels must be rated for the grinder on which they will be used.
- Remove energy source before performing maintenance/adjustments or removal/replacement of bits, blades, or accessories.
- Tools must never be hoisted, lowered, or carried by the cord.
- To prevent trip/fall hazards, cords, leads, and hoses must:
  - Be placed out of walkways, and off stairs or ladders.
  - Be secured a minimum of 7 ft above walkways, runways, and ramps.
- Appropriate PPE must be worn when using any tool. Avoid loose fitting clothing or gloves, rings, or other jewelry that can be caught when operating rotating equipment. Long hair should be secured back.

Electrical Tools

All portable electric tools shall be Nationally Recognized Testing Laboratory (NRTL)-listed or have been reviewed and approved by the EAHJ.

Ground-fault circuit interrupters (GFCIs) shall be used when performing work using handheld electrical tools, including when using extension cords. Consider battery-operated or pneumatic tools as an alternative to electrical tools in wet or damp locations.

Pneumatic Tools

- An approved safety check valve (excess flow valve) must be installed at the manifold outlet of each supply line for handheld pneumatic tools.

- All pneumatic hose connections shall be fastened securely.
- Safety clips or retainers must be installed on all pneumatic tools to prevent the accidental expulsion of the tool from the barrel.
- All bull hoses shall be secured with a safety chain or equivalent.

Fuel-Powered Tools

- All fuel-powered tools must be shut down and allowed to cool prior to being fueled.
- Smoking is prohibited during refueling operations.
- Other sources of ignition, such as burning and welding, must also be halted during refueling operations.
- Fuel-powered tools shall not be used inside a building or excavation without adequate ventilation.

Tool-Specific PPE

Specialty tools may require extra or unique precautions and must be evaluated. Project S&H should be consulted to ensure the correct PPE is selected and controls developed within work documents.

The following chart lists examples of specialty tools and the minimum PPE to be worn by the worker or other workers nearby when such tools are in use.

Tools	PPE
Jackhammers Tampers	Double eye protection[1] Hearing protection Foot protection (metatarsal) Hand protection Anti-vibration gloves
Chipping hammers Impact wrenches Reamers	Double eye protection[1] Hearing protection Hand protection Anti-vibration gloves
Cutting torches Arc welders Cadweld molds	Double eye protection[2] Hand protection Flame-resistant garment[3]
Chain saws	Hard hat Face and eye protection Hearing protection Hand protection Chainsaw chaps—ASTM F1897 Chainsaw boots—ASTM F1818
Grinders[3] Handheld chipping hammers	Double eye protection[1] Hearing protection Hand protection

[1]Full-face shield over safety glasses or mono-goggles.
[2]Burning goggles/welding hood over safety glasses.
[3]Flame-resistant outer garment required for grinding.
ASTM F1818, *Standard Specification for Foot Protection for Chainsaw Users.*
ASTM F1897, *Standard Specification for Leg Protection for Chain Saw Users.*

ELECTRICAL SAFETY

- All electrical equipment used as part of an electrical installation must be listed by NRTL for the specific application. All electrical installations must conform to NFPA 70®, *National Electric Code*®.
- GFCIs must be used to power electrical handheld tools.
- Damaged or defective electrical tools must be tagged and taken out of service.
- Work shall not be conducted on energized circuits of any voltage unless the person is a QEW, authorized, and adequate safety measures have been taken.
- If required to work on energized high-voltage (over 600V) lines and equipment, you must be appropriately trained and obtain prior approval from the appropriate supervisor. In addition, adequate PPE, such as eye protection, linemen's gloves, blankets, or mats, shall be used as required.
- Temporary lighting must have guards over the bulbs. Broken and burned-out lamps/bulbs must be replaced immediately. Bulbs shall not extend beyond the protective guards. Do not attempt to remove broken bulbs until the circuit is de-energized.
- Circuit breaker switches shall be clearly marked to identify what they control.
- Extension cords shall be visually inspected before use for external defects, powered by a GFCI receptacle or short portable GFCI, and shall not be used to power other extension cords or power strips (i.e., "daisy-chaining").
- All electrical equipment that is likely to require examination, adjustment, servicing, or maintenance while energized shall have an Arc Flash Hazard Warning Label affixed, specifying the arc flash boundary, incident energy, and electrical PPE level requirements. Arc flash labels at UCOR should contain other information associated with the equipment such as: shock hazard, voltage, arc flash warning label expiration date, and unique component identification number. Do not

perform work on equipment that has an expired Arc Flash Hazard Warning Label.

- Scaffolds and ladders shall not be erected, used, dismantled, altered, or moved near exposed electrical conductors. Contact the UCOR EAHJ and Project S&H representative for additional guidance.
- Hazardous electrical equipment areas shall be barricaded, and appropriate warning signs posted. Follow the postings.

Downed power lines can create a special hazard. If you see a power line, guy wire, or communication line lying on the ground, **LEAVE IT ALONE AND BACK AWAY.** Contact ESWO, the LSS, or the PSS as appropriate. Do your best, without injuring yourself, to keep people a minimum of 30 ft away from the area until the proper personnel arrive to control the area.

MOBILE AND PORTABLE ELECTRIC GENERATORS

Portable electric generators (120V–240V) are those that can typically be relocated by hand and are self-contained in a frame or encasement.

Mobile electric generators (120V–600V) are typically trailer or skid-mounted and higher output than portable generators, able to support large equipment, trailers for personnel, and buildings.

Mobile electric generators must be grounded in accordance with UCOR standard E1E700002A106, *Mobile Equipment Grounding Standard*.

All electric generators must be approved by the EAHJ before use. Contact the UCOR Electrical Safety Program office for a list of portable and mobile electric generators that are preapproved for use at UCOR. Operating instructions for electric generators vary by manufacturer and model. For example, Honda portable electric generators shall not be used in damp or wet conditions, such as rain or snow, or near a pool or sprinkler system, or when hands are wet. Consult the UCOR Electrical Safety Program office for assistance in obtaining operating instructions.

CONSUMER USE OF ELECTRONICS AT WORK

Personal electronics must be used in accordance with manufacturers' recommendations. Use of modified personal consumer electrical or electronic products, while on the worksite, is prohibited. For devices that require charging, use only the manufacturer designated charger.

LOCKOUT/TAGOUT (LO/TO)

All affected and authorized employees must be properly trained prior to performing duties as described in PROC-EH-2002, *Hazardous Energy Control (Lockout/Tagout)*.

*****YOU MUST FOLLOW UCOR'S LO/TO PROCEDURE.*****

The LO/TO Program is designed to prevent the accidental release of hazardous energy from sources such as electricity, compressed gases, liquids, steam, rotating/moving equipment, etc.

The LO/TO Program includes provisions for isolating—locking and tagging, blanking, capping, blocking, etc.—moving mechanical parts and electrical systems to prevent accidental or unauthorized operation that would expose workers to hazardous energy during service or maintenance.

You must be trained and briefed to the work being performed to isolate and work on systems that can expose you to hazardous energy. Authorized employees performing any service and maintenance requiring LO/TO must complete LEARN Module 31132, *Hazardous Energy Control for Authorized Employees*. Supervisors of authorized employees additionally must complete LEARN Module 21142*, Hazardous Energy Control for Issuing Authorities, Supervisors and FMs*.

Unless you have the appropriate LO/TO training, you are prohibited from working on or near electrical equipment or lines, mechanical equipment, or pressure systems that could be energized or activated; and on vessels, piping systems, or equipment containing toxic substances or hazardous material that could be activated or released**. *Unauthorized removal of locks or tags, or other noncompliance with LO/TO procedure is grounds for termination of employment.***

HEAVY EQUIPMENT HAZARDS

Only individuals qualified and authorized according to PROC-FO-3034, *Earth Moving Equipment*, and PROC-FO-1040, *Lift Truck Operation*, who also possess valid operator cards, shall be allowed to operate heavy equipment.

Operators

- Conduct a pre-use inspection of the equipment, and document on Form-832, *Equipment Daily Checklist and Safety Inspection Form*.
- **DO NOT USE** malfunctioning equipment (i.e., equipment that cannot properly perform its intended job). Notify supervision immediately (supervisors shall ensure malfunctioning equipment is not used and is removed/tagged out of service).
- Use a vehicle construction/equipment spotter (VCES) as directed by PROC-FO-1073, *Vehicle/Construction Equipment Spotter,* and participate with the VCES in completion of Form-3500, *Vehicle/Construction Equipment Spotter Safety Checklist*.
- Operators are required to wear their seat belts at all times when operating any piece of construction equipment.
- Never operate any equipment in excess of the manufacturer's rated capacity.
- Be aware of overhead obstructions, especially utilities (e.g., power and communication lines). If any part of the equipment has potential to come within 20 ft of overhead power lines, then ensure Form-3090, *Overhead Utility Clearance Permit*, is completed.
- Be aware of underground hazards such as voids or pits. Do not operate in areas or on surfaces incapable of supporting the equipment being utilized.
- Use three points of contact when entering or exiting equipment. Verify all steps and handholds are free from debris and defects.

Workers

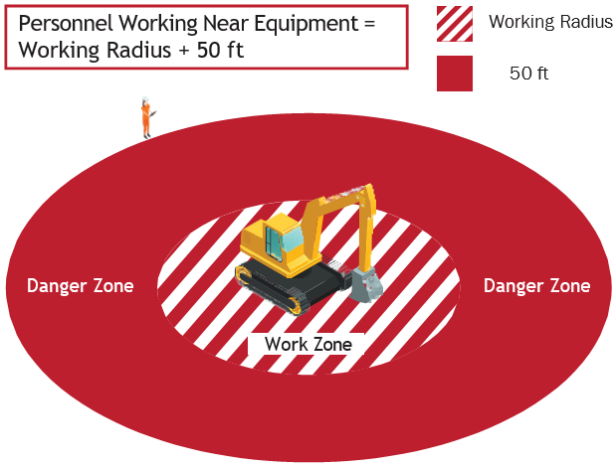
- Work performed near heavy equipment (e.g., front-end loaders, excavators, backhoes, trenchers, cranes, skid steers, lift trucks, etc.) requires special care and awareness.
- Heavy equipment has the right-of-way.
- Do not assume that the operator can see you.
- Never cross in close proximity to the forward or reverse travel path of heavy equipment. Establish confirmation with the operator prior to crossing.
- Do not depend on hearing a horn or an alarm to warn you that moving equipment is near.
- Wear high-visibility/reflective safety apparel while working where this type of equipment is being operated.
- Never ride on the running board, steps, drawbar, or other part of any equipment, even for a short distance.
- Watch out for swinging counterweights on equipment. Never walk under loads or place any body part under loads suspended from cranes or hoists.

Heavy Equipment Safety

Operators SHALL:

- Perform a 360° walkaround of equipment prior to moving. Ensure blind spots are identified.
- Verify with VCES that the area is clear around the equipment prior to moving/operating.
- Verify safety systems on equipment function, e.g., back-up alarms, horns, back-up camera (if equipped).
- Eliminate distractions, e.g., phones, music, prior to spotting.

- Request barricades to keep other equipment and/or personnel out of the work zone. *See example below*.



Actions for Working Around Heavy Equipment:

- Utilize barricades with the appropriate signage to prevent unnecessary personnel from entering work areas.
- Prohibit use of cell phones and similar devices while working around heavy equipment.
- Confirm communication methods with operator have been discussed and are appropriate for clearly communicating any changing conditions.
- Never approach, cross behind, or enter within the danger zone of any equipment without getting the attention of the operator with the appropriate 3-way communication (verbal or hand communication).

MOBILE ELEVATING WORK PLATFORMS

Only individuals qualified and authorized according to PROC-FO-3036, *Mobile Elevating Work Platform Operation*, who also possess a valid Operator's Card shall be allowed to operate mobile elevating work platforms (MEWPs).

Supervisors SHALL:

- Ensure malfunctioning equipment is not used and is removed/tagged out of service.

A competent person SHALL:

- Perform a Fall Protection Hazard Analysis if a MEWP is to be used as a fall protection anchorage point for a worker to perform activities outside of the platform.

Workers Operating MEWPs SHALL:

- Read and obey all warning signs and become familiar with the operator's manual.
- Take adequate time to become familiar with each specific MEWP to be operated.
- Check the inspection tag to ensure the inspection is current on the piece of equipment.
- Conduct a pre-use inspection of the equipment and document on Form-897, *Mobile Elevating Work Platform Daily Checklist and Safety Inspection Form*, or Form-3426, *WAV 50/60, Work Assist Vehicle Daily Checklist and Safety Inspection Form*. **DO NOT USE** a malfunctioning MEWP; **notify supervision immediately.**
- Use a VCES as directed by PROC-FO-1073.
- Be aware of overhead obstructions, especially utilities (e.g., power and communication lines). If any part of the equipment has the potential to come within 20 ft of overhead power lines, then ensure Form-3090 is completed.
- Operate the equipment on the terrain for which it is designed (be aware of slopes and unstable surfaces).

- Only use MEWPs to hoist personnel, small hand tools, and any manufacturer-approved equipment/materials. DO NOT overload. Additional lifting fixtures attached to an aerial lift must be approved in writing from the manufacturer and authorized by the Construction/Heavy Equipment SME.
- Stand on the platform floor. (Standing on the railing is prohibited.)
- Stow machine in the lowest position while traveling.
- Ensure that a front and/or rear escort is used when traveling on public or private roads.
- Be qualified to wear fall protection devices per PROC-EH-2006.
- Wear safety harness and tie off inside the MEWP to designated anchorage points to prevent ejection from the lift (e.g., JLGs).
- Keep your hands off the outer handrail when the platform is in motion.
- Brief riders on safety hazards while working from the MEWP.

MOTOR VEHICLE SAFETY

When you drive a vehicle in support of UCOR work, it is important to remember that defensive driving is a full-time responsibility.

When bad weather affects driving conditions, you must adjust your driving time and habits, per PROC-EH-2020, *Safe Use of Vehicles*.

General Motor Vehicle Safety

Immediately report all vehicle incidents, no matter how minor they may seem, to your supervisor.

Driver Responsibilities

- Drivers must possess a current state driver's license and complete UCOR driver training.
- Comply with all applicable city, county, state, federal, and site vehicle laws and regulations (including prohibition for use of non-licensed, utility-type vehicles on public roads).
- Perform a 360° walk around of the vehicle prior to use of the vehicle.
- Driver and ALL passengers must fasten their seatbelts/ shoulder harnesses before placing vehicle in motion and keep restraints fastened while vehicle is in use.
- Maintain parking lot speeds of 10 mph or less.
- Grant right of way to personnel in designated crosswalks, and park only in designated parking spaces.
- Be alert while driving by keeping your mind free of distractions and your attention focused on driving.
- Exit the roadway and park in a safe location prior to use of a mobile/cell phone.
- Driving under the influence of drugs or alcohol is strictly prohibited.

- ***A GUIDE IS REQUIRED*** when a worker is present, either as passenger or available in the work area, for assistance during first move forward or when backing from a parked position and/or maneuvering through congested areas.
- Sound the horn twice prior to initiating the first move forward or backward (unless vehicle is equipped with backup alarm).
- Upon exiting the vehicle, place a traffic cone/safety cone (of any color) on the ground at the driver's side rear of the vehicle if the next driver will back up, or at the driver's side front if the next driver will pull forward, whichever is anticipated.
- Drivers of commercial motor vehicles (CMVs) shall follow PROC-TR-9512, *Motor Carrier Safety Compliance.*

Being an "Active Passenger"

- Assist the driver from a parked position, when they are maneuvering through congested areas, or when conditions do not allow clear or sufficient visibility for safe movement of the vehicle. ***No training is required for you to act as a guide.***
- Fasten your seatbelt/shoulder harness before driver places vehicle in motion, and keep restraints fastened while vehicle is in use.
- Do not distract the driver.
- Be an active participant in the driving process and maintain a high level of situational awareness, assisting the driver as needed.

Tips for Being a Vehicle Guide:

- **No training is required for you to act as a guide.**
- As a guide, you have the right to pause/stop vehicle operation if you perceive the situation as unsafe.
- Eliminate distractions (e.g., phones, music) prior to guiding.
- Use clear hand signals and/or verbal commands. Discuss with the driver how you will communicate while guiding.
- Stand where the driver can see you.
- Look for obstacles and communicate them to the driver.

- Maintain situational awareness.
- Be engaged and alert to help identify changing conditions while guiding a driver.
- Assess environmental conditions such as darkness and evaluate how to remain safe while guiding.

Motor Vehicle Safety Questions

- What are possible outcomes of not using a spotter/guide when required?
- What does it mean to be an “active passenger”?

COMPRESSED GASES

Use

- Handling of compressed gases requires UCOR-specific training.
- Per PROC-EH-2014, *Compressed Gas Cylinders*, always use the proper regulator for the type of gas in the cylinder.
- Visually inspect the valve and regulator before connecting to ensure they are free of foreign material (e.g., grease, dirt, oil).
- The threads and mating surfaces of the regulator and hose connections should be clean before the regulator is attached.
- Always use a cylinder wrench or another tightly fitting wrench to tighten the regulator nut and hose connections.
- Do not use a wrench to open or close a handwheel-type cylinder valve. If it cannot be operated by hand, the valve should be repaired.

- Do not permit oil or grease to come in contact with cylinders or their valves. Oily substances may decompose explosively when exposed to oxygen.
- When cylinders are not in use, regulators are to be removed and valve protection caps put in place.
- Disconnect hoses at the end of each shift.

Storage

- Cylinders containing acetylene must never be stored on their side. They contain liquid acetone that could leak out of the valves if cylinders are not kept upright. Cylinders shall be stored in a well-ventilated area away from flames, sparks, or any source of heat or ignition.
- Keep cylinders away from electrical circuits.
- Do not store oxygen (or oxidizer) cylinders, full or empty, within 20 ft of other flammable gases unless separated by a 5-ft-high barrier having a fire-resistant rating of at least 30 min.
- Never lift cylinders by the cap. The cap is for valve protection only. Cylinders should be properly secured at all times (attached to a wall, cylinder truck, cylinder rack, or post).

- Full and empty cylinders of all gases should be segregated and stored separately and posted as “Full” and “Empty”; or an individual cylinder should be clearly identified as full/empty with a sign or tag hung on the cylinder.
- Hoses shall be disconnected from the manifold and stored properly after each shift. Do not store in confined areas (such as an unventilated gang box) where gases may accumulate.

Transportation

- Cylinders being transported shall have the regulators removed and valve protection caps securely in place.

- Cylinders shall never be rolled on their side or dragged. When moving large cylinders, strap them to a properly designed wheeled cart to ensure stability.
- Transport compressed gas cylinders under the direction of a Transportation Specialist.
- Use caution when moving large compressed gas cylinders in carts or with wheels attached to the cylinders themselves. Be aware of uneven surfaces or cracks that can cause the wheels to bind or stop that may then cause the cylinder to flip.
- On inclines, the cart or cylinder should be pushed downhill not pulled; this will allow your body to be positioned above the load if the tank tips over. Use two people to transport large cylinders if necessary.

HOT WORK OPERATIONS

Welding, burning, abrasive grinding, and other heat/spark/flame generating operations have a potential to cause injuries and fires. When performing these tasks, it is essential to take the following precautions per PROC-FP-2008, *Hot Work*:

General Precautions

- Obtain a Form-149, *Hot Work Permit*.
- Special precautions must be taken to ensure proper ventilation when conducting hot work (especially in confined spaces). IH must evaluate ventilation to establish controls that prevent exposures from exceeding occupational exposure limits.
- When general mechanical or local exhaust cannot adequately reduce airborne concentrations below occupational exposure limits, approved respiratory protection shall be required when welding, cutting, or heating metals.

- All welding or burning work done outside an approved welding shop requires the presence of a dedicated fire watch trained to perform that function. The fire watch period extends 1 hour after the end of hot work unless otherwise stated by the hot work permit.
- During fixed weld shop operations, a second person trained to use a fire extinguisher (not necessarily a fire watcher) must be present in the vicinity to come to the welder's aid in the event of an emergency.
- Only qualified personnel shall perform all welding, cutting, and grinding operations.
- Torches should be lit by friction lighters or other approved devices only.
- Keep cylinders, all hose apparatus, and connectors free of oil and grease, and do not handle them with oily or greasy hands or gloves.
- Oxygen/fuel gas systems will be equipped with approved backflow valves, flash arresters, and pressure relief devices.
- When performing hot work, you must wear prescribed PPE (including flame-resistant garments in some cases). Do not wear synthetic-type clothing (polyester, polyester blends, etc.) when performing hot work operations.
- Before conducting hot work, inspect your work area to ensure that sparks or molten metal will not contact flammable or combustible materials. Combustible material must be covered or moved at least 35 ft away from the work.
- Flammable/combustible liquids and gases, not associated with the work, must be moved at least 50 ft away or shielded.
- You must be sure that suitable fire protection equipment is available in your work area.
- Welding leads and burning hoses shall be maintained off floors, walkways, and stairways to prevent tripping hazards.
- When burning, grinding, or welding on coated surfaces, special precautions need to be taken. The coating must be removed—at least 4 in. in every direction around the weld area. Contact your supervisor and Project IH for further information.

- Never weld on or burn barrels, tanks, piping, vessels, or other systems that may have contained either combustible or unknown products without first obtaining clearance from your supervisor.
- Filter lenses provide protection from light radiation sources such as arc welding or lasers. Filter lenses must have a shade number that is appropriate for the work being performed.

Questions on Hot Work Operations

- Why is fire-retardant clothing essential to safe welding activities?
- What are hazards a trained fire watch must always be aware of? Why?

Welding

- Your supervisor and Project S&H Rep must approve the use of soft welding hoods for specific operations.
- Employees must utilize double eye protection (maintaining a face shield and glasses/goggles) when the potential for flying objects from grinding or other weld-cleaning activity exists.
- When arc welding near other workers, workers must be protected from the arc rays by noncombustible screens and/or filter lenses that reduce the transmission of ultraviolet rays.
- The frames of welding machines shall be grounded.
- Special precautions shall be taken during Tungsten Inert Gas (TIG) or Metal Inert Gas (MIG) welding operations to ensure that inert gases do not collect in adjacent low-lying areas or confined spaces. Contact your supervisor for special precautions.

Burning and Cutting

- Inspect equipment prior to use. If repair or replacement is necessary, return the equipment to the tool room.

- Friction igniters must be used to ignite torches. Do not use matches or lighters.
- Torches shall not be used to light smoking materials.
- Flashback arrestors shall be installed on all cutting torches prior to use.
- **DO NOT** use oxygen to blow off clothes or clean welds.
- Air arcing will require hearing protection.
- Turn off all valves and gauges when not in use and disconnect hoses at the end of each shift.

OFF-THE-JOB SAFETY

UCOR is equally concerned with your off-the-job safety. More injuries and fatalities happen off the job than at work. Please use the rules of safety you have learned while working in our facilities when you are away from work and share them with your family.

Tips at Home

- Check your vehicle before long trips—tires, wipers, and general safety items.
- Never drink and drive; designate a driver or call a driving service (rideshare service, taxi, etc.).
- Get the right tool for the job or hire a professional.
- Choose the right ladder. Think about the required height, the ladder style and material, and the surface on which the ladder will stand.
- If there are children at home, always turn handles of stovetop pots and pans inward to avoid tip-overs.
- Make sure your smoke detectors are functioning properly and tested.
- Install carbon monoxide (CO) detectors in your home, basement, and/or garage.
- Make sure that you have at least one fire extinguisher in your home and that it is accessible and in good working condition.
- Protect your family and involve neighbors when it comes to responding to an emergency. Create a home emergency plan with an established meeting point. ***If everyone is accounted for, a member of the fire department does not have to risk their own life to enter a FIRE!***

INDEX

Notes

EMERGENCY SIGNALS

Standard Alerting Tone on Radios

Signal: High/Low wavering tone

Action: Stand by for information from ESWO, PSS, or LSS

Criticality Accident Alarm

Signal: Continuous, steady tone

Action: Exit the area as quickly as possible and go to the nearest Assembly Station

Instructions for Emergency Reporting

Use the fire alarm box to summon help for any emergency except an Active Shooter. Emergency response personnel will respond to the location of the fire alarm box, so if safe to do so, stand by the alarm box and provide information to the emergency responders when they arrive.

When reporting an emergency, be sure to:
• Remain on the line until the dispatcher has received all information and has no further questions. • State the nature of the emergency • State your name, location, and exact location of the emergency • Note whether injuries are involved. • Note whether hazardous chemicals or radioactive materials are involved

Site Information/Notifications

For information on road closures, inclement weather, or schedule changes, do not call ESWO; call the UCOR Information Line: (865) 241-INFO (241-4636) or sign up on the UCOR Mass Notification System (on the UCOR intranet, click “M” then “Mass Notification Sign-up Instructions”).

After notification to 9-1-1/Y-12 OC/PSS/LSS/Control Point, contact UCOR ESWO: (865)574-3282	
Location	*How to report*
ETTP (Heritage Center) Radio (K PSS OPS)	• **9-1-1** (say that you are trying to reach City of Oak Ridge) • Activate a fire alarm pull box
Y-12 and ORRL Radio (Y PSS)	• **(865)574-7172 (Y-12 OC/PSS)** • Activate a fire alarm pull box
ORNL Radio (X LSS)	• **(865)574-6606 (LSS)** • Activate a fire alarm pull box
TWPC	• **(865)576-3969 (Control Point)** during normal business hours • **LSS at (865)574-6606, 9-1-1** by landline, or Emergency Call Box • Activate a fire alarm pull box
Bear Creek Valley (EMWMF) Radio (K PSS OPS)	• **9-1-1** (say that you are trying to reach City of Oak Ridge)
Leased Facilities (e.g., 90 & 100 Union Valley, 701 Scarboro, 105 Mitchell Rd.)	• **9-1-1** (say that you are trying to reach City of Oak Ridge) • Activate a fire alarm pull box
Building 1916-T2 and 1916-T3	• **9-1-1 (**say that you are trying to reach City of Oak Ridge) • Activate a fire alarm pull box • Oak Ridge Operations Center **(OROC): (865)576-1005**

UCOR-4087/R4

APPROVALS

UCOR Safety and Health Handbook, Oak Ridge, Tennessee	UCOR-4087/R4
	July 2023

USQD Review Determination	☒ USQD ☐ UCD ☐ CAT X ☐ Exempt (select criteria 1–3 below) USQD/UCD/CAT X No.: PSW-MS-UCOR4087-2283 Rev 0
Exemption Criteria	☐ (1) Non-intent change ☐ (2) DOE-approved safety basis document ☐ (3) Per criteria in PROC-NS-1001 (e.g., Chief Financial Officer, Internal Audit, Labor Relations, General Counsel, Community Outreach, or Project Integration & Business Services) OR ☐ (4) Document identified in USQD-MS-CX-REPORTS-1074
USQD Preparer:	DANIEL THEISEN (Affiliate) Digitally signed by DANIEL THEISEN (Affiliate) Date: 2023.09.11 07:51:21 -04'00' Name Date
Exhibit L Mandatory Contractor Document	☒ No (No Proforma Change Control Director [PCCD] signature required.) ☐ Yes (Requires review by the PCCD.)
PCCD:	Name Date

Prepared by: DOUGLAS CALLOR (Affiliate) Digitally signed by DOUGLAS CALLOR (Affiliate) Date: 2023.09.11 09:28:27 -04'00'

Douglas Callor, Senior Safety Specialist
UCOR

Date

Approved by: LEAH BECKWORTH (Affiliate) Digitally signed by LEAH BECKWORTH (Affiliate) Date: 2023.09.11 09:35:59 -04'00'

Leah Beckworth, Safety and Health Manager
UCOR

Date

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File—DMC—RC

Hall, Ashley M (AR4)

From: Mckenzie, Melissa D (M3M)
Sent: Monday, September 11, 2023 10:37 AM
To: ETTP DMC
Cc: Hall, Ashley M (AR4)
Subject: final/signed 4087R4
Attachments: UCOR-4087R4.pdf

Please see attached file for processing. Let me know if anything else is needed.
-Mel

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