11/2005 Updates to
UTC
ENVIRONMENTAL,
HEALTH & SAFETY
GUIDELINES
For
CONTRACTORS

United Technologies Connecticut & Maine Operations

**Pratt & Whitney**
A United Technologies Company

**Hamilton Sundstrand**
A United Technologies Company

**Sikorsky**
A United Technologies Company

**UTC Power**
A United Technologies Company

**United Technologies**
Research Center
Definitions

**Cardinal Rule**: A rule that if violated, has the potential to cause a fatal or serious injury. As such, violators of a Cardinal Rule are subject to disciplinary action up to and including permanent suspension from working at UTC.

**Contractor Coordinator** – The UTC employee who is directly responsible for the activities performed on site by a contractor and the contractor’s employees and subcontractors.

**Division** – Major business organization of UTC (e.g., Pratt & Whitney, Hamilton Sundstrand, Sikorsky, Fuel Cells.).

**Emergency Services** – Protective Services, Fire Department, or Security Department, depending on the division or facility.

**Minor Violation** – Any violation other than a Serious Violation.

**Review Board** – A board consisting of on-site UTC personnel who will address contractor violations that require a meeting with Contractor management.

**Serious Violation** – Any violation of an EH&S requirement that could have resulted in an OSHA Recordable incident, an environmental release that the Environmental department would deem a threat to human health or the environment, or property damage in excess of $1000.

**Site** – Location of a UTC facility where work is performed.
**Contractor EH&S Performance Progressive Improvement Plan**

**Point Assessments**

Minor Violation: 1 point  
Serious Violation: 2-6 points *(applied to Cardinal Rule violations)*

Category Points: Violations within the same chapter of this handbook  
(e.g., Lockout Tagout, Confined Space, PPE)

Total Points: Total of all violations, regardless of category.

<table>
<thead>
<tr>
<th>Category Points*</th>
<th>Total Points*</th>
<th>Division Improvement Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Verbal Warning to Work Crew and Contractor</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>Written Warning to Contractor</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>Contractor Meeting with site Review Board</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>Work Crew Suspended from site for 1 week and Contractor Suspended from bidding jobs at the site/division for 6 weeks</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>Work Crew and Contractor suspended from site for 3 months</td>
</tr>
<tr>
<td>6</td>
<td>25</td>
<td>Contractor suspended from site indefinitely</td>
</tr>
</tbody>
</table>

* - For violations/incidents within the last 24 months.  
1 - Alternate work crew may be assigned to continue work  
2 - Site or division suspension determined by review board

**UTC-Wide Consequences***

<table>
<thead>
<tr>
<th>Improvement Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Divisional Suspension Written Warning¹ to Contractor Management</td>
</tr>
<tr>
<td>2 Divisional Suspensions 12 Week UTC Bid Suspension</td>
</tr>
<tr>
<td>3 Divisional Suspensions 1 Year UTC Bid Suspension</td>
</tr>
<tr>
<td>4 Divisional Suspensions Permanent UTC Site and Bid Suspension</td>
</tr>
</tbody>
</table>

* - For suspensions within the last 24 months. A suspension at any division initiates the UTC-wide Improvement Action  
¹ - Including warning that Contractor is at risk of UTC-wide bid suspension.

The intent of this plan is to raise the level of awareness concerning poor EH&S performance to succeeding levels of management within a contractor's organization, and thereby enabling management to implement necessary corrective actions to avoid future violations and business interruptions.
Hazard Control Programs

The remaining pages of this guide contain specific environmental, health and safety requirements for Contractors working at UTC manufacturing facilities in Connecticut or Maine. Individual UTC divisions may have requirements that are applicable to their facilities only, and these are listed in the Appendices at the end of this guide. Contractors are responsible for being aware of and following these requirements whenever they work at the respective divisions.
UTC has established 5 cardinal rules. These rules are rules that if violated have the potential to cause a fatal or serious injury. As such, violators of a Cardinal Rule are subject to disciplinary action up to and including permanent suspension from working at UTC.

The UTC Cardinal Rules are:

**Confined Space**
Confined Spaces shall be identified and written procedures established and followed for entry.

**GFCI use on all Hand and Portable Power Tools**
Contractor employees shall use Ground Fault Circuit Interrupters (GFCIs) on all portable tools and portable electrical devices used in service/maintenance, or installation activities.

Contractor employees shall use Ground Fault Circuit Interrupters (GFCIs) on all portable tools and portable electrical devices used in all manufacturing/assembly/overhaul & repair activities where construction activities are performed, or where there is the potential for exposure to damp/wet areas or the potential for damage to cords/plugs/receptacles.

**Elevated Work**
Contractor employees shall use fall protection when exposed to a fall hazard (working at an elevated level of 6 feet or more).

**Lockout Tagout**
Prior to performing work on machines or equipment, contractor employees shall identify all hazardous energy forms, bring them to a Zero Energy State and secure them. Zero Energy State is defined as the elimination and/or control of hazardous energy such that it no longer represents a hazard to personnel.

This shall include but is not limited to mandatory use of lockout / tagout procedures when working on any electrical, mechanical, hydraulic, pneumatic, compressed gas, chemical or thermal processes.
Machine Guarding
Employees shall not tamper with or disable machine / equipment guarding while operating under normal conditions.
Lockout/Tagout of Hazardous Energy Sources

- Contractors shall restrict access to work areas by unauthorized employees where energy sources have been de-energized.
- All affected employees shall be notified. Where applicable, the area shall be secured and signs posted to alert employees that a de-energizing activity is in progress.
- Contractors shall obtain specific site lockout instructions from the Contractor Coordinator.
- Standardized lockout devices and "Danger" tags shall be used to prevent the operation of switches, valves, pieces of equipment, etc., where personal injury may occur or equipment may be damaged.
- For work that involves multiple trades and or contractors:
  - A primary authorized employee must be designated to oversee the event and to coordinate affected work forces and to ensure continuity of protection.
  - A lead authorized employee shall be designated for each party that is part of the group.
  - Each lead shall verify that a zero energy state has been achieved for each hazardous energy source that must be locked out that is associated with his or her party’s work.
  - Each authorized employee of the party must then also verify zero energy for each hazard that is associated with the work they perform.
  - If any party does not have an employee that is qualified to perform the verification (e.g. an employee qualified to assess electrical hazards), then the lead employee and each member of his/her party must witness the verification performed by a designated qualified employee of one of the other parties or a qualified UTC employee.
  - The primary and all lead persons must sign a document attesting to the completion of these verification steps before work may begin. Contractor Coordinators should coordinate these requirements at a pre-job hazard review.
• Each contractor and subcontractor employee performing operations where equipment or systems require de-energizing shall place his/her own lock and tag on each energy source requiring de-energizing; each employee shall sign and date the tag. The tag shall include the employee’s name, the name of the contractor they work for, the date the lock is installed and the reason for lockout is required.
• Only standard “Danger - Do Not Operate” (black, red and white) tags will be used.
• If equipment for de-energizing is in a confined space, the confined space will be cleared of all employees prior to testing the energy source for deactivation.
• Stored energy systems and equipment, such as electrical capacitors, mechanical springs, steam lines, and hydraulic systems, shall be put in a “zero energy” state.
• Contractor employees shall remove only their own locks and tags when they complete their work.
• Used danger tags will be destroyed; tags will not be reused unless designed for reuse.
• Extended lock out requirements shall be coordinated with the Contractor Coordinator.
Underground lines, equipment and electrical cables shall be identified and located by the Contractor Coordinator prior to beginning work that involves trenching, excavating, drilling or cutting into the ground or building structures. Any local “Call Before You Dig” program must be contacted as well for excavations and trenches.

Contractor shall assign a competent person to all trenching and excavation work. This person shall be clearly identified to all employees assigned to the job.

Contractors will not initiate work without prior approval of the Contractor Coordinator.

Walls and faces of trenches and excavations, four or more feet deep, shall be shored, sloped or shielded as required by the type of soil encountered.

Prior approval from the Contractor Coordinator and EH&S personnel is required before commencing, or continuing, with trenching deeper than four feet.

A confined space entry permit shall be required where oxygen deficiency or a hazardous atmosphere exists or could exist.

A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are four feet or more in depth so as to require no more than 25 feet of lateral travel for employees.

Daily inspections shall be conducted by a competent person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems or other hazardous conditions.

Employees shall not be permitted underneath loads handled by lifting or digging equipment.

Employees shall be protected from excavated or other materials and equipment that could cause a hazard by falling or rolling into the excavation.

Physical barriers shall be placed around or over trenches and excavations. Flashing light barriers shall be provided at night.
- Erosion control measures to minimize storm water pollution shall be reviewed approved by the Contractor Coordinator prior to implementation.
Scaffolding

- All scaffolds shall be inspected by the contractor competent person prior to use and shall be tagged and signed as acceptable.
- The contractor competent person shall inspect the scaffold daily to ensure its integrity.
- The footings or anchorage for scaffolds shall be sound, rigid and capable of carrying the maximum intended load without settling or displacement.
- Guardrails and toe-boards shall be installed on all open sides and ends of scaffold platforms that are more than four feet above the ground or floor.
- Scaffolds shall be provided with an access ladder or equivalent safe access. Employees shall not climb or work from scaffold handrails, mid-rails or brace members.
- When freestanding, manually propelled scaffolds are used, the height shall not exceed four times the minimum base dimension.
- Employees shall not ride on mobile scaffolds when they are being moved.
- The EHS department and the Contractor Coordinator must authorize exemptions to using fall protection during erection and dismantling of scaffolds.
OSHA VPP REQUIREMENTS

Contractors who work more than 1,000 hours in any calendar quarter at the Hamilton Sundstrand Windsor Locks facility are required to provide health and safety data as identified in the OSHA VPP requirements to the Windsor Locks Site EH&S Manager when requested but not less than annually. This data includes the contractor SIC/NAICS Code, hours worked, hours worked at HS Windsor Locks and injury and illness data for the company as a whole as well as the work done at Windsor Locks.
Aerial Lifts:

Employees working in aerial lifts shall wear hard hats or bump caps, and shall be tied off in a restraint mode with a harness and lanyard. Restraint mode is achieved when the lanyard prevents the employee from stepping up onto the mid-rail.

Employee shall work from the floor of the lift only. Climbing on handrails, mid-rails or brace members is prohibited unless a permit to do so has been issued verifying an adequate anchor independent of the lift is used to tie off in a fall arrest mode.

Demolition Work:

Utilities shall be marked in orange (paint, tape, ribbon etc.) at the locations where they shall be disconnected. The marking shall occur at the time when zero energy is verified and/or pipes are cleared or flushed. Every employee who will be involved with the physical disconnection of each utility shall witness the verification.

Electrical Safety

Working on or near live electrical parts other than troubleshooting requires a Live Work Permit, which must be obtained through your contractor coordinator.

Lockout Tagout

During multiple trade lockout tagout events, a Primary Authorized employee must be designated to oversee the event, and each employee who will perform work that exposes them to the controlled energy must verify or witness zero energy state for each hazardous energy he or she will be exposed to.
Roof Work Access:

Employees working within 15 feet of any unprotected edge 6 feet or higher must comply with fall protection requirements determined with the Contractor Coordinator prior to commencing the task. **Unprotected edges include unguarded skylights and hatches.**
Electrical Safety
Working on or near live electrical parts other than troubleshooting requires a Live Work Permit, which must be obtained through your contractor coordinator.
PPE:

All work performed on site requires protective footwear in compliance to ANSI Z-41, safety shoes or work boots. The only exception to this rule will be for contractors performing office desk work in the office areas only.