

# Transition Toolbox Meeting - Week 3, Day 1: *Work-Control Documents*

## EH&S Manual chapters 3310 & 3320

Standard Operating Procedures and  
Operational Safety Procedures

Temporary Work Permits

### *What is a Work-Control Document?*

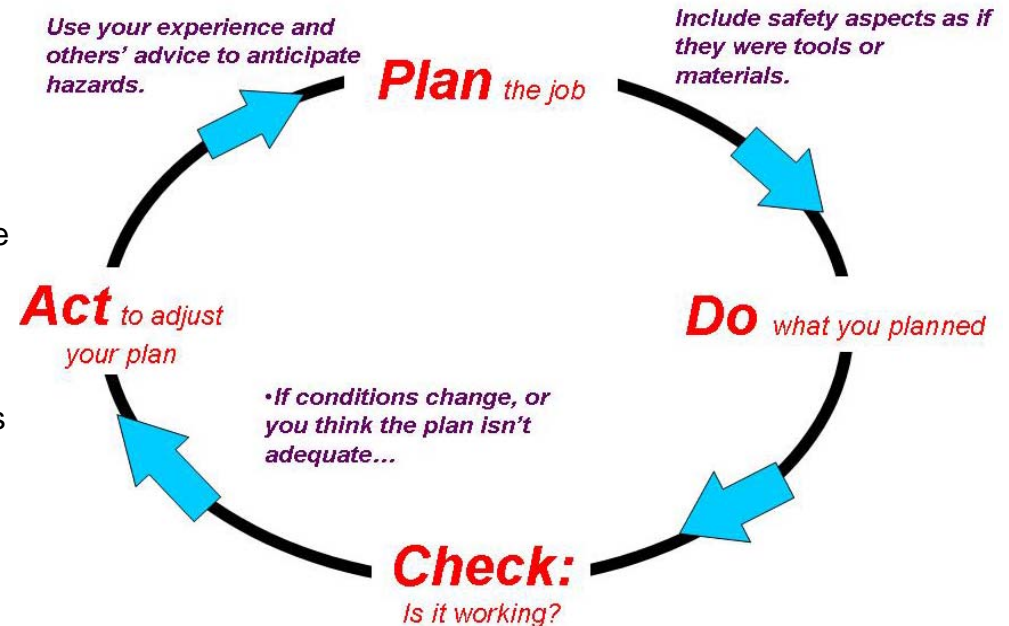
- It's a "thinking exercise" for those who contribute to its development: a consistent process that imparts a necessary discipline in work planning.
- It's a plan on how to do some task or operation safely: a "recipe."
- It can be used to inform those affected by the work.
- It's a legacy document that can be adapted for other, similar situations in the future.
- It describes the risks associated with the intended work, and explains how those risks are mitigated to an acceptable level – an example of how the 5 Core Functions of ISM are put to practical use.

### Examples of JLab Work-Control Documents:

- **Standard Operating Procedures (SOPs)**: work procedures that address technical aspects of a job, including **ordinary EH&S hazards** that are discussed in the *EH&S Manual*. Expiration date 3 years or less.
- **Operational Safety Procedures (OSPs)**: a safety-focused set of procedures for **unusual hazards** that are **not discussed** in the *Manual*. The owner division specifies an expiration date, 3 years maximum.
- **Temporary Work Permits** include special written permits for hazards such as:

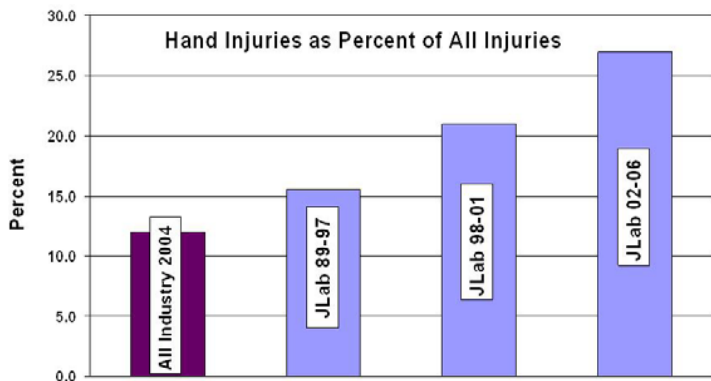
**Confined-Space Work Permit**  
**Electrical Service Work Permit**  
**Fire Hazard Work Permit**  
**Short-Term Radiological Work Permit**

They also include **Temporary Operational Safety Procedures (TOSPs)** for **unusual hazards**. These are usually **short duration**: hours to a few days.



# Transition Toolbox Meeting - Week 3, Day 2: *Hand Protection*

**EH&S Manual 6620, *Personal Protective Equipment***



**Nationally, hand and finger injuries account for about 12% of all injuries.** Historically, Jefferson Lab has had more than that – more injuries to hands than any other part of the body. These range from lacerations, contusions, chemical and thermal burns, to splinters and abrasions. The vast majority of these would have been prevented or less severe had the worker worn gloves suitable for the work.

***So, you might ask, why didn't the people have gloves on at the time?***

**And some possible strategies to mitigate the problem.**

**Let's address some common "reasons" – one by one.**

1. The most common answer – here and elsewhere – is that their gloves weren't nearby at the critical moment. Gloves don't fit well in most pockets, and they get left where they were last used – or lost.



There are two easy solutions to the "my-gloves-are-way-over-there" problem. One is to purchase gloves that have a clip that can be fastened to a belt loop, or buy an accessory clip or strap made for that purpose and use it.

This device is available through JLab Web Stock:



[GLG-1939-24 Glove Guard Retainer #1939 Yellow](#)

2. The next most prevalent answer is that the person perceives the loss of dexterity while wearing gloves interferes with getting the job done.



There are protective gloves on the market that allow you to pick up a dime. Gloves made for emergency-rescue, technical climbing, and law enforcement all have excellent dexterity as well as protection.



For ordinary purposes, choose gloves that have a drawstring wrist adjustment. You will get a better fit.

3. Less commonly, the person was wearing the wrong type of gloves, and they didn't provide adequate protection from the hazard.

Choosing the best glove option is a hazard analysis in miniature. This is particularly true if chemicals are involved. Appendix **6620-T1, *Determining Need for PPE*** has information to help select the best glove for the job. This is something your EH&S staff can help with.

## ***Some general safety notes about gloves:***

Puncture resistance is a different property than resistance to abrasion and cuts. If you need it, look for that in the glove's applications.

Gloves for thermal protection (cryogenics, hot materials) need to have loose cuffs so they can be flung off if need be.

Gloves are usually a hazard themselves when working with moving machinery that could grab your glove and pull your hand into the equipment (just like rings, wrist watches, hair, etc.)

## Transition Toolbox Meeting - Week 3, Day3: *Excavations & Floor/Wall Penetrations*

JLab EH&S Manual Chapters 3110, *Assessment of New Facility Plans* & 6210 *General Electrical Safety*

DIGGING, FLOOR/WALL PENETRATION PERMIT: [http://www.jlab.org/fm/Digging\\_Permit.pdf](http://www.jlab.org/fm/Digging_Permit.pdf)

It happens every day. Someone is digging and hits a buried utility. Depending upon which utility it is, a number of unpleasant things ensue:



- Disruption to telephone service, cable TV, LAN, or to internet connections.
- Interruption to drinking water supply or wastewater transport.
- Gas line puncture and possibly explosion and fire.
- Damage to electrical lines, causing loss of service, and, quite possibly, killing the digger or others nearby.



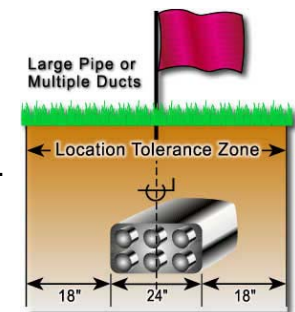
The digger (whether it's Harry Homeowner or Acme Construction) gets hit with civil (\$\$) penalties, the cost of repairs, and possibly legal claims for loss of service and ancillary damages. And, closer to home, **utility intrusions are among the most frequent mishaps with the DOE community. We've had our fair share here.**

**Isn't there a way to prevent these accidents?** Yes, to about a 99% level of certainty. On most property, the protocol is to call Miss Utility to have all of the buried services located and marked. Locate Technicians use instruments and, when available, site drawings and property owner's knowledge. Despite this free service, utility intrusions still occur.



### Why?

- The digger doesn't bother to call, or waits so long to begin work that the spray-painted markings have disappeared.
- The digger excavates too close to the markings, or does not use hand digging when he gets close.
- The buried utility has no metal mass to cause a reading on the instruments.
- Other buried material shields the utility or causes interference in the instrument.
- The Locate Tech makes a mistake.



Jefferson Lab uses a Locate service that we call for our own or our subcontractors' excavation work. We always use the same service so the technicians develop a familiarity with our systems and our expectations. Facilities Management is the point of contact if you plan to do any of the following: ***Digging, grading, tunneling, trenching, and drilling below grade, and installing stakes, rods, etc. to a depth greater than 6 inches. This includes penetrations of slabs on grade such as sidewalks and roads.***

Making "blind penetrations" into walls and floors has the same potential hazards as excavation, and the two are treated much the same at JLab; locate before penetrating. What is a blind penetration? ***Drilling, cutting, nailing, and installing fasteners, etc. into a wall or floor when the interior is concealed from view.***

### The only exceptions:

1. Boring, drilling, or cutting of masonry wall or a concrete floor to a depth of less than 3 inches.
2. Penetrations in gypsum-board walls where the interior of the wall at the penetration location can be seen to verify no utilities are present.
3. Cutting holes in gypsum-board walls by razor knife set to thickness of board.
4. Manually chiseled penetrations in hollow-core concrete block walls that remove no more than one block.

## Transition Toolbox Meeting - Week 3, Day 4: *Dangerous Jobs*

### EH&S Manual Chapters – Several, including 6131 (Trip & Fall Protection) & 6132 (Scaffolds and Ladders)

**What would you guess are the most dangerous occupations in the U.S.?** The list below is based upon data from the Bureau of Labor Statistics for the year 2004. At first glance, you might conclude that we don't have any of those jobs here at JLab. In fact, we subcontract for many of these activities (highlighted in yellow). And if you look for common themes among the fatality causes, working at height figures prominently. Many of us do that regularly. Falling to a lower level is the 4<sup>th</sup> leading cause of death at work.

	Occupation	Fatality Rate (per 100,000 workers)	Median Pay	Other Information
1.	Logging workers	92.4	\$29,730	Logging and timber workers duties include cutting down trees and cutting and moving logs, providing the raw material for countless products. The nature of their work puts them at constant risk of being killed by heavy, falling objects, and <b>falling from considerable heights</b> .
2.	Aircraft pilots & flight engineers	92.4	\$129,250 (may be much lower for commercial pilots)	Although aircraft pilots and flight engineers have one of the most dangerous jobs in the nation, don't swear off air travel just yet. This category also includes commercial pilots of smaller aircrafts -- including crop dusters and air taxis -- that are far more likely to crash than your typical 747.
3.	Commercial fishers & related workers	86.4	\$24,100	Fishers endure storms, fog, wind, and hazardous working conditions before bringing you the fresh salmon on your dinner plate. Perilous weather puts fishers at risk of drowning if their boat capsizes or they fall overboard. And if they suffer serious injuries while at sea, help isn't readily available.
4.	Structural iron & steel workers	47	\$42,430	These workers climb dozens of stories to lay the iron and steel that form buildings, bridges and other structures. Despite strapping on harnesses and other safety gear, structural iron and steel workers face a high risk of <b>fatal injuries from falls</b> .
5.	Refuse/recyclable material collectors	43.2	\$25,760	When refuse and recyclable material collectors take away your trash, they risk traffic accidents and fatal injuries from explosions of hazardous materials. According to a University of Miami study, the leading cause of on-the-job fatalities for these workers is impatient motorists who try to pass the garbage truck and hit the driver.
6.	Farmers & ranchers	37.5	\$40,440	Farmers and ranchers raise animals, plant, cultivate and harvest crops used to produce our food. However, the tractors and machinery they use can be very dangerous: Non-highway vehicle accidents accounted for 40 percent of occupational fatalities for farmers and ranchers in 2004.
7.	Roofers	34.9	\$30,840	When these workers climb atop your house to build or repair your roof, they risk <b>slipping or falling from scaffolds, ladders</b> , or roofs, or burning themselves on flammable, toxic materials.
8.	Electrical power line installers & repairers	30	\$49,100	When your lights go out, line installers and repairers climb power poles and towers to get your electricity up and running. Power lines are typically high off the ground, so workers are at <b>high risk of injury due to falls</b> . Plus, these workers are often at risk of electrocution from contact with the high-voltage power lines.
9.	Driver/sales workers & truck drivers	27.6	\$33,520 \$20,090	Truck drivers transport goods including cars and livestock, and driver/sales workers deliver and sell their firm's products over established routes. Both groups spend the majority of their time on the road, putting them at high risk of highway vehicle crashes.
10.	Taxi drivers & chauffeurs	24.2	\$19,570	The dangers of shuttling around patrons go far beyond highway crashes. Taxi drivers, who often work alone and carry large amounts of cash, may also find themselves victims of robbery and homicide.

## Transition Toolbox Meeting - Week 3, Day 5: *Safety Inspections*

### EH&S Manual Chapter 220 *Landlord/Tenant Responsibilities*

**Safety inspections are an important tool at Jefferson Lab in our overall EH&S strategy.** Few people would claim they enjoy them. However, most will acknowledge they are valuable in identifying problems and solving them before they contribute to a mishap. Effective and efficient inspections aren't a matter of chance; some forethought and planning came first.

#### *First, what is an "inspection?"*

**One working definition:** *A careful observation and evaluation of an area or operation based on a set of established criteria.*

- It should be consistent, objective, and thorough (with respect to the intended scope).
- It should be documented, and it should lead to improvement.
- It should add value to the work operation

#### *What constitutes a deficiency?*

- Conditions or actions contrary to guidance in the *EH&S Manual*.
- An SOP, OSP, or temporary work permit is being violated, or is absent where it's clearly needed.
- Something violates OSHA, EPA, or other regulatory requirements.
- None of the above, but you still believe it's a bad plan, because it's just not the way your group does its work.

#### *"High-Yield" Areas for Inspections:*

- PPE
- GFCI devices
- Power cords
- Protective guards, barriers, locks, alarms, etc.
- Clean-up and response equipment for local emergencies: spills, leaks, skin/face contamination, fires
- Storage of chemicals and flammables
- Lighting, ventilation, means of egress
- Housekeeping, clutter in walkways
- Anything likely to be ignored or delayed in the interest of expediency



#### **Landlord and Tenant Responsibilities**

**This section defines the landlord/tenant relationship and related responsibilities.**

The Director shall ensure that each space at Jefferson Lab has assigned to it a designated division or office as landlord. The landlord line management is responsible to...

**b. Arrange periodic, documented EH&S inspections of the space at least quarterly** in accordance with the division self-assessment plan and using a graded approach, correct deficiencies found on those inspections or other inspections conducted by the laboratory, DOE, or other cognizant outside agencies...