



INTEGRITY
Learning Solutions

Other Reasons

NFPA 70E 130.6 (A)(2)



WESS™

Instructors guide to the video “Other Reasons”

Too many experienced, trained and presumed “qualified workers” are getting injured on the job. Employees commonly approach a task with a combination of 3 behaviors. **Confident** in their abilities, they often use the most **Convenient** work methods without adequately considering the consequences. The lack of employer documented clear and thorough guidance is interpreted as **Consent** to continue as usual. These 3 factors produce the most dangerous of work site cultures we call **Complacency**. The worker’s focus is shifted from safety to just getting the job done without even being aware of being impaired. **(AND NOT FROM DRUGS OR ALCOHOL)**

Many employee and work site factors can be put into a general category called “**Other Reasons**”. The focus of NFPA 70E is for those performing work tasks involving electricity. The same safe work principles highlighted in this video can apply to any hazardous work task.

The video is approximately 26 minutes in length. The video is conveniently divided into several sections which allow for pausing and interacting with the audience to share experiences or examples to drive the points home. The producers suggest utilizing the built-in stop points identified by the white screens and pause times noted in this guide. The white screens have NFPA 70E references which result in greater depth of discussion and a way to include company specific safety policies and work practices into the conversation.

INSTRUCTOR:

Begin video: stop at 4:38

Skills – Rules – Knowledge Safety Triangle

A qualified worker by definition is “**One who has demonstrated skills and knowledge related to the construction and operation of electrical equipment and installations and has received safety training to identify and avoid the hazards involved.**” 2015 NFPA 70E Article 100 Definitions. By replacing the word “electrical” in the definition this could then apply to any other task there is.

Qualified workers have had appropriate levels of training to ensure technical knowledge and safety awareness to identify the hazards encountered performing specific tasks. This awareness training coupled with **supervised** experience performing the task form only two sides of the safety triangle. Without rules on how to “avoid the hazards involved” this worker is destined to a career driven by complacency. All seems well until one day, doing that same task the same way as before when the appropriate amounts of knowledge, skills and rules are out of balance, the inevitable happens. Safety managers or supervisors now enter the scenario to try and figure out that with all the preparation and training, how could such a thing even occur.

- 1. Share an example when skills, rules and knowledge were out of balance and it caused an incident to occur.**

2. **Can this same concept apply to more than electrical work? Give an example. (I Can send a quick text while on the highway)**
3. **Who should we have be the mentor or train the new hires: The senior person who has done the job for 20 + YEARS ? (not necessarily the best of choices if that person is known for cutting corners or being complacent)**

Nobody likes rules. We drive just over the speed limit because we feel it's safe. Unfortunately for us, the rule enforcers do not agree. We may have extensive experience and knowledge of the road but "other reasons" such as animals, cross traffic, roads not properly maintained, or any other reason not readily known to us can occur. Rules are in place to keep us safe. Safe from others and safe from ourselves.

What rules are in place for electrical workers to enhance safe work outcomes?

1. **Working de-energized (compliance to article 120)**
2. **Always wearing the appropriate PPE in the correct way**
3. **Using care and diligence to fill out and use all the forms, paper work and documentation prior to performing the task. (examples: JSA, SOP's, HAZARD RISK ASSESSMENTS)**

Does our extensive knowledge and experience at times cause us to break the rules?

1. **It's Friday afternoon and I have a fishing trip planned!**
2. **I never agreed with all that PPE stuff anyway, and nobody is watching so**
3. **It's just one lug that's loose and if we shut down the system it will cost the company lots of money. Surely it's OK to work this "hot" just this time (will be in the bosses good favor if I just get it done.)**

"Other Reasons" sometimes are used to justify what we do. Wonder if the company feels the same way? A balance of Skills – Rules and Knowledge is what produces safe outcomes. Let's listen to Mark Standifer's story and see if we can pick out some of the **"Other Reasons"** that caused his accident decades ago.

Continue video, stop at 5:24- DISCUSS CELL PHONE STATISTICS

- As of June 1, 2017, Cell phones were the #1 cause of distractions in the workplace. Even more alarming is the fact that cell phone distractions surpassed driving under the influence as the #1 cause of vehicular fatalities in Canada.

Continue video Stop at 8:14

Mark's comments: His "Other Reasons"

1. **Up all night – fatigued**
 2. **Last day on job – starting a new job Monday – relieved since this boss was not good!**
 3. **New equipment and making modification for unique installation.**
 4. **I know my meter is broken but I'll stay a safe distance away.**
 5. **Boss shows up interrupting his work process (Hmmm, would a barricade have prevented this)**
 6. **Forgets to visualize open phase (B phase stab broken, hung up)**
 7. **Can't do absence of voltage verification because meter is broken (Again, what got Mark was lack of following article 120)**
- INSTRUCTOR MAY ALSO WANT TO DISCUSS BEING SHOCKED WITHOUT EVER COMING IN CONTACT WITH A CONDUCTOR. Electrical theory 101.**

Obviously Mark's mind was not focussed on the electrical hazard. He was very familiar with this equipment and had gotten comfortable working on it. Mark was primarily working in a "Skills and

Knowledge based” mode, focused on his past experience and knowledge of the equipment. What electrical safe work practice rules (aka policies and procedures) would have helped Mark overcome his lost focus?

1. **Did Mark have a written work plan? (hazard risk assessment)**
2. **Did Mark have a second person there to watch his movements and ensure he was following his work plan? Its required by OSHA for exposures above 600 volts. Many companies take this down to 50 volts today.**
3. **Did Mark follow all the Lockout / Tagout rules?**
4. **Did Mark fill out a JSA for the task? Did Mark’s company have a “self-awareness” section on the JSA? Self-awareness is being “Prepared to do the work right now” and considers the following:**
 - a. **Am I trained for the task?**
 - b. **Have I demonstrated to a qualified person I can safely perform the task**
 - c. **Have I done the task in the last 12 months**
 - d. **Are there any physical or mental conditions that would impair me from doing this task safely? These are the long list of “Other Reasons”**
5. **What if I do determine I’m not “prepared to do the work” right now? Does the company rule require that I stop work and contact my supervisor? What if the supervisor pushes me to finish?**
(HAS ANYONE GONE TO WORK AFTER A PERSONAL PROBLEM AT HOME?)

Even if his company did not have all the policies and procedures in place to counteract this out of balance focus, Mark chose to overlook even his own safety rules. Why?

1. **Mark was convinced his skills and knowledge was all that is needed to keep him safe, or**
2. **The lack of company direction (rules) was perceived as an unconscious consent, that it was OK to proceed.**

Continue video and Stop at 18:45

In this section we hear how Mark realizes his knowledge was not in question. Mark said earlier, “the equipment was installed according to the National Electrical Code” standard yet the convenience receptacle installed inside the unit was oriented in such a way to have likely been considered by some to have been the leading casue of the accident. Safety by design principles have become a recent focus for electrical engineers and equipment designers but even the application of safer designs cannot overcome the human factor when we are overrun by “**Other reasons**”. It is important to remember Mark’s accident occurred in 1983. His lack of knowledge about melting fibers (polyester, etc.) was not well known in those days and the evolution of the skilled and experienced journeyman level safety culture embracing new rules in their everyday work performance had just begun.

1. **Marks accident lasted for a total time of ¼ cycle or 1/250th of a single second. Discuss trip times on breakers and fuses.**
2. **Mark felt NO PAIN atr the time. Shock MASKS all pain for a period of time due to the automatic response of the human body to release a massive shot of EPINEPHRINE throughout the system.. This is often referred to as the “FIGHT OR FLIGHT” response. Its as though we are on “AUTOPILOT”**
3. **Marks emotions are clearly visible when he speaks of a loved ones touch. Fact is, ANYWHERE the body receives 3rd and 4th degree burns, “feeling will NEVER come back to that area. How would you function if you had no feeling in your hands, chest, etc. What do we do with our hands that requires feeling?**

4. Why didn't Mark stop and readjust his actions when he noticed the convenience outlet was installed in such a way that would cause him to reach further into the equipment than normal?
5. Do you think he'd like to relive that moment in time and make a different decision?
6. What decision should have been made? Put on PPE?, Verify absence of voltage? Have a second person on site to respond in an incident? Which one of these would provide the greatest level of safety?
7. Can you think of other non-electrical situations where similar decisions are made?
 - a. Should we merely put on PPE and push forward or back up a rung or two on the OHS "Hierarchy of Safety" ladder to a higher level of safety?

As a reminder to the instructor, the Hierarchy of Safety has 6 levels.

1. **Eliminate** the hazard (basically means don't use electricity) – not a realistic possibility
2. **Substitute** a different hazard (basically means use a different energy, such as hydraulics. This is done on line trucks to eliminate the need for electrical power tools in power line pole construction or maintenance where there may be energized power lines in the immediate area)
3. **Engineering controls** (this is the safety by design concept. Good example might be arc-resistant switchgear)
4. **Barriers** (setting up safety zones around the equipment using barricading tape or safety cones accompanied by a second safety watch person during the task performance)
5. **DISCUSS THIS: COULD SOMETHING AS SIMPLE AS SETTING UP BARRICADES HAVE PREVENTED MARKS ACCIDENT? Contractor would have stopped short and just maybe Mark may have looked through window and seen broken stab.**
6. **Administrative controls** (these are the RULES. Policies, guidelines and safe operating procedures)
7. **PPE** (Personal Protective Equipment is critical to keep workers safe from injury and should ALWAYS be used in the appropriate times and ways but PPE alone does not provide optimum safety.)

"Safety is not the absence of accidents but the presense of a shield to stop them from happening" R. LeRoy

Discuss examples from the student's workplace where the use of the 6 steps in the Hierarchy of Controls can provide better safer work outcomes.

Mark discusses the effects his accident had on himself and his family.

Group questions:

1. How many of you have visited someone in a burn center or have been treated at a burn center? How were you affected by this experience? (you will NEVER forget the smells)
2. While working do you consider how the consequences of your actions may affect more than just you? (Safety professionals tell us how everyone has a network around them of about 60 people or more consisting of family, friends and co-workers What affects us does have an effect on others as well.)
3. Did you ever consider that Workman's Compensation may not be enough to pay all your bills? Do any of you have a savings account with enough money to pay your bills should an injury keep you from working for an extended period of time? Maybe you have a "loss of income" insurance policy. Is this something you really want to use?

Continue video and Stop at 22:35

For context on Donnie Johnson's incident. In August 2004 Tampa, Florida was preparing for the first likely major hurricane strike in almost 20 years. Many businesses critical for community safety and support were having temporary emergency generators hooked up to provide power in the expected outages that would occur once the hurricane arrived. Electricians were working long hours and the normal "inspection processes prior to energizing equipment" were being relaxed. Experienced and trained workers like Donnie were quickly moving from one installation to the next to beat the impending storm. At the same time, these workers may also be thinking about how prepared their families and homes are and what needs to be done to protect and provide for them as well. Time, energy and supplies were quickly running low.

Anytime work that is being performed is out of the normal routine of daily activities, policies and procedures, (aka Rules) are critical. Knowledge of the task or equipment might be limited and at times workers may not recognize when their knowledge may be lacking. Field inspecting tools, equipment and especially PPE just prior to use and verifying their "safe to use condition" are important steps in the safe operating procedure (SOP) for the task. These field inspections give us knowledge about those items which is not readily observed by giving them a quick glance. To be trusted, condition and functionality must be verified just prior to their use.

Donnie's accident: His "Other Reasons"

1. **Was he fatigued?**
2. **Environmental pressures? (impending storm)**
3. **"I don't have time to put on that safety gear!" Nothing has ever happened before....**
4. **Grabbed WRONG meter**
5. **"Done this job 1000 times before" (COMPLACENCY)**
6. **"Accidents happen to others, not me"!**
7. **"Wonder if there will be any groceries and supplies at the store by the time I get off work today?"**

Lots of reasons but no excuses. Often we think procedures and policies are applicable only during normal duties and tasks. In an emergency situation all rules are suspended and the focus is solely on getting the job done. That kind of thinking couldn't be more wrong and can be deadly!

1. **What are some examples of rules (policies and procedures) that would have helped avert an incident such as what Donnie experienced that day?**
2. **Should rules for normal tasks and rules for emergency tasks be the same?**
3. **Do the electrons know the difference?**
4. **Do company policies cover all energized work that can be done?**
 - a. **Temporary power**
 - b. **Start up and commissioning**
 - c. **Maintenance activities**
 - d. **Demolition work**
 - e. **Inspection activities**
 - f. **AC and DC systems**
 - g. **Working with subcontractors on or near energized equipment**
5. **If I had to look my loved one in the face 10 years after surviving a horrific incident such as the one Donnie survived, how would I explain my actions on the day I was injured? Is it an excuse or just other reasons?**

Continue video to end

Both Mark and Donnie have similar stories. “**Other Reasons**” were the root cause of their accidents, and both survived. Many others have not been so lucky. For Mark its been 34 years. For Donnie only 13.

1. **What would their lives be like if the accident never occurred?**
2. **In other words were they destined to have an accident based upon some predetermined fate or was their accident a direct result of their own actions and decisions?**
3. **Do you talk to your family and loved ones about following safe work practices at home?**
 - a. **Test GFCI before use. (Use proper GFI tester) More importantly, explain to them if the GFI trips, DO NOT plug into a non-GFI receptacle. This could be a FATAL mistake.**
 - b. **Inspect tools, cords and cord caps prior to use. (If your son or daughter is old enough to be expected to plug in any electrical cord, they are old enough to do a basic inspection first. (TEACH THEM!)**
 - c. **Use safety glasses and hearing protection with power tools. (lawn mowers, weed eaters, etc.) Some of our basic yard tools may exceed 85 db.**
 - d. **Perform a 360° walk around inspection of the car or truck prior to jumping in and driving away.**
 - e. **When operating a circuit breaker, stand to the side, take a deep breath and hold it while turning it on or off.**
 - f. **What you’ve learned at work applies at home as well.**
4. **What are you taking away from these stories?**

An effective way to drive the point home and provide a reminder of always following safe work practices well beyond the time spent in this training today is to do both of the exercises below:

1. **Make it personal. One by one if attendance numbers and time allows, grasp their hand and look them in the eyes and say the following.**

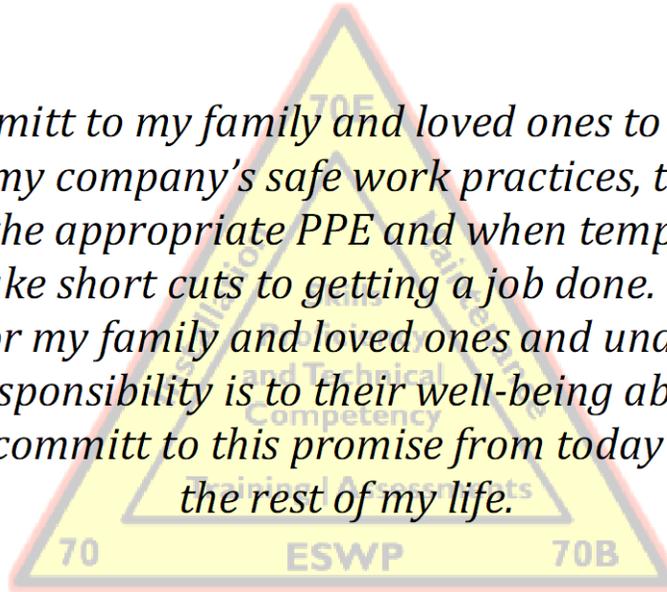
Instructor: *“I’m standing in for your family and loved ones today. Do you committ to your family and loved ones to always follow your company’s safe work practices, to always wear the appropriate PPE and when tempted, and you will be tempted at some point in the future, to never take short cuts to getting a job done. Do you committ to this promise from today through the rest of your life? If you committ, say I will.”*

2. **Provide a reminder.**

Attached is a sample “commitment to safe work contract” which can be signed and hung or framed for the worker to give their loved ones as a constant reminder to work safe.

Commitment to Work Safe

I committ to my family and loved ones to always follow my company's safe work practices, to always wear the appropriate PPE and when tempted will never take short cuts to getting a job done. Because I care for my family and loved ones and understand my responsibility is to their well-being above my own, I committ to this promise from today through the rest of my life.



____/____/____



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