



CENTRAL INDIANA CHAPTER

Welcome!

November 4, 2022

Announcements:

Greg Anderson , CI ASSP Chapter Pres.

Topic:

NFPA 70E

Speaker:

Roger Reynolds, AES Corporation

Introductions

1. Name
2. Where are you from
3. Company
4. Position
5. Something interesting or unique

Upcoming Meetings/Events

For more details: <https://centralindiana.assp.org/event/>



Dec. 2 Indiana DOL/OSHA Update



TBD Community Service Project

Jan. 13 Chapter Meeting

Feb. 27-Mar. 1
2023 Indiana Safety and Health Conference/Expo

<https://www.insafetyconf.com/>

THE GREATEST SPECTACLE IN SAFETY



2023 INDIANA SAFETY & HEALTH CONFERENCE

February 27-March 1 | Indiana Convention Center, Indianapolis

www.INSafetyConf.com

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**CENTRAL
INDIANA
CHAPTER**



ASSP / BCSP Partnership

- BCSP will provide discounted exam application fees (promo codes) to CI ASSP members attending Monthly CI ASSP Chapter Meetings
- David West: david.west@bcsp.org



V 2017 11 01 | Board of Certified Safety Professionals | bcsp.org


Sponsors

- Our chapter is always looking for sponsors for our monthly meetings.
 - Advertise in monthly newsletter
 - 1-2 minutes at Monthly Chapter Meeting
- Please contact us if your company is interested.



HSE Job Openings

<https://centralindiana.assp.org/current-opening>

[Home](#) [About](#) [Sections](#) [News](#) [Events](#) [Golf](#) [Files](#) [Jobs](#) [Photos](#) [Resources](#) 

JOBS

Are you looking to hire an environmental, safety and health professional within Indiana? CIASSP members can advertise their needs at no charge on this site by forwarding the position's job description to the [Central Indiana ASSP Jobline](#). Your job description will be reviewed for appropriateness and posted for 4 weeks.

Construction Safety Professional (Indianapolis)

Safety Management Group is seeking a Safety Advisor in Indianapolis, IN – Construction Safety

The key function of a Safety Advisor is to learn the importance and steps needed to put Safety at the forefront of their job, make the client's needs priority, work well in a team setting, become self-managed, and be flexible when it comes to change. The associate in this role will be working in a Construction environment providing the following services: Safety oversight.

jobs.assp.org

With limitless opportunities tailored to the field of safety, as well as automated notifications when jobs become available that match your interests and qualifications, OSH Jobs is the first step you should take on your journey to a post-college career in safety. [Click here](#) to create an account with ASSP's OSH Jobs. There is no cost for searching positions and posting resumes!

ACCESS OSH JOBS

Mentoring Program

- CI ASSP is starting a brand new mentoring program
- Pair experienced safety professionals with emerging safety professionals in first few years of the profession
- Looking for Mentors! Email:
- greg.anderson@mepholding.com



Community Outreach



We are trying to plan a community outreach event. If anyone has a passion or idea, please share it with us.

Connect with Us!

<https://centralindiana.assp.org>



Keyword: "CI ASSP"

Today's Topic

NFPA 70E Arc Flash Awareness



CENTRAL INDIANA CHAPTER

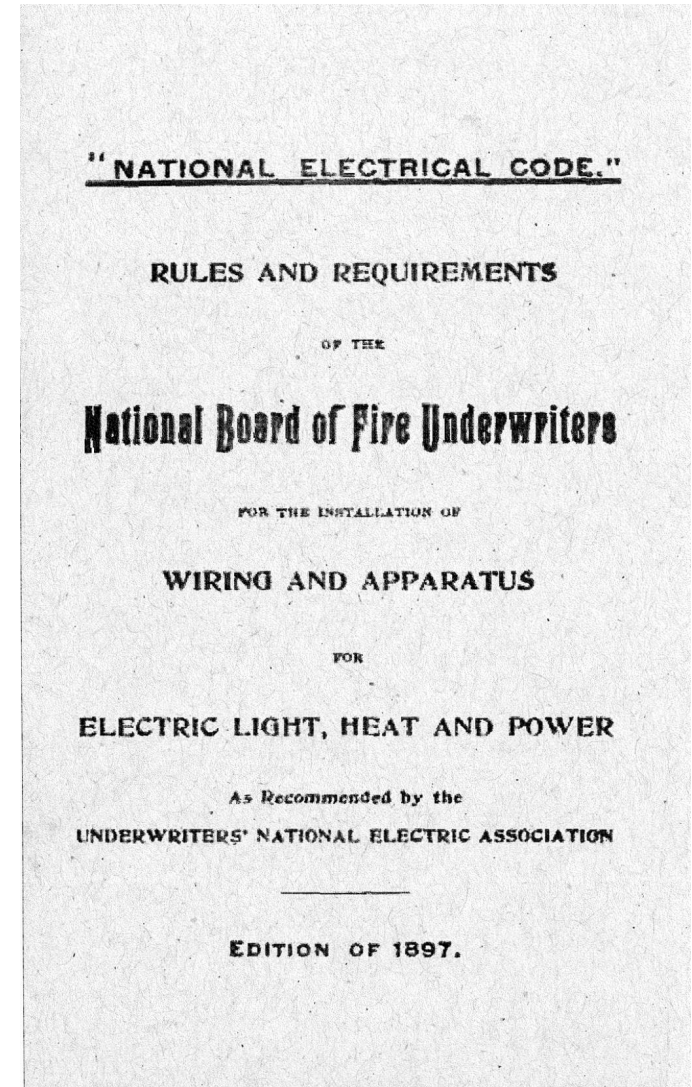
Roger Reynolds

NFPA 70E Overview

History

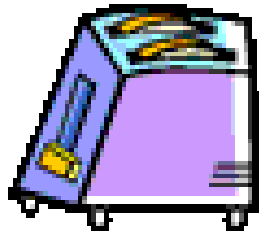
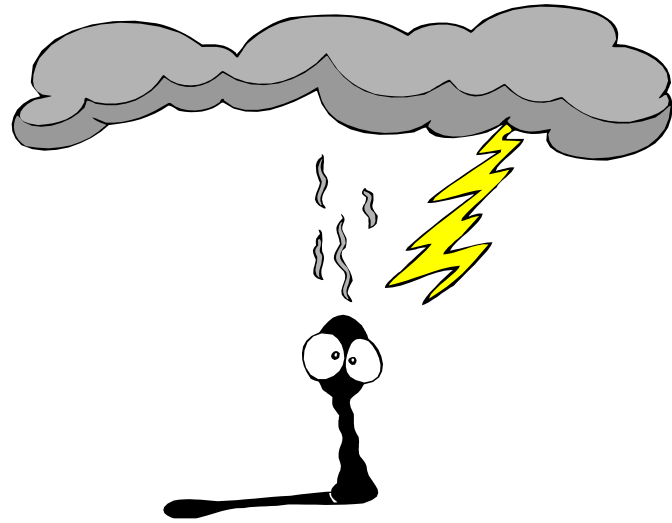
OSHA requested the National Fire Protection Association (NFPA) develop a standard addressing electrical safe work practices. In response, the first edition of NFPA 70E was published in **1979**.

The citations were issued following an OSHA inspection of a Ford Motor Company, ("Ford") stamping plant in Buffalo, New York. The inspection arose as a result of an electrical accident which occurred at the plant on September 15, 1999.



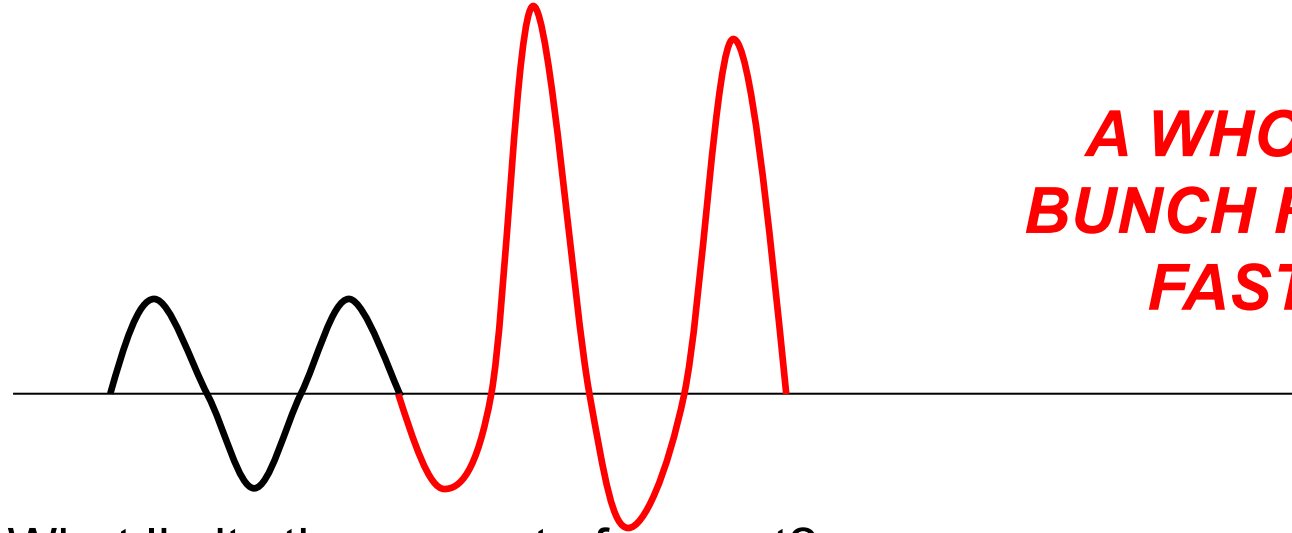
Short Circuit Vs. Overloads

A **whole bunch** real fast.



A little bit too much current over a long duration
of time.

Available Short Circuit Currents



***A WHOLE
BUNCH REAL
FAST.***

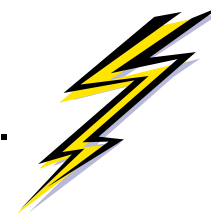
What limits the amount of current?

Reaction time of the protective device.



Distance from the source.

Size of the source.



Are Flash/Direct

- The type of flash
- Copper
- the energy
- Projected
- the area
- sound from
- A jet engine
- Temperature 4X times

✦ Typical



- ✦ Vision Damage
- ✦ Hearing Damage
- ✦ Concussions



Burns

Skin Temperature	Time of Exposure	Damage
110°F	6.0 hours	Cell breakdown begins
158°F	1.0 second	Cell destruction Curable Burn 1.2 cal/cm ²
176°F	0.1 second	Second degree burn
	But what is a third degree burn???	
200°F	0.1 second	Third degree burn

Remember an arc flash typically lasts only .6 seconds
and reaches temperatures up to 35,000 °F

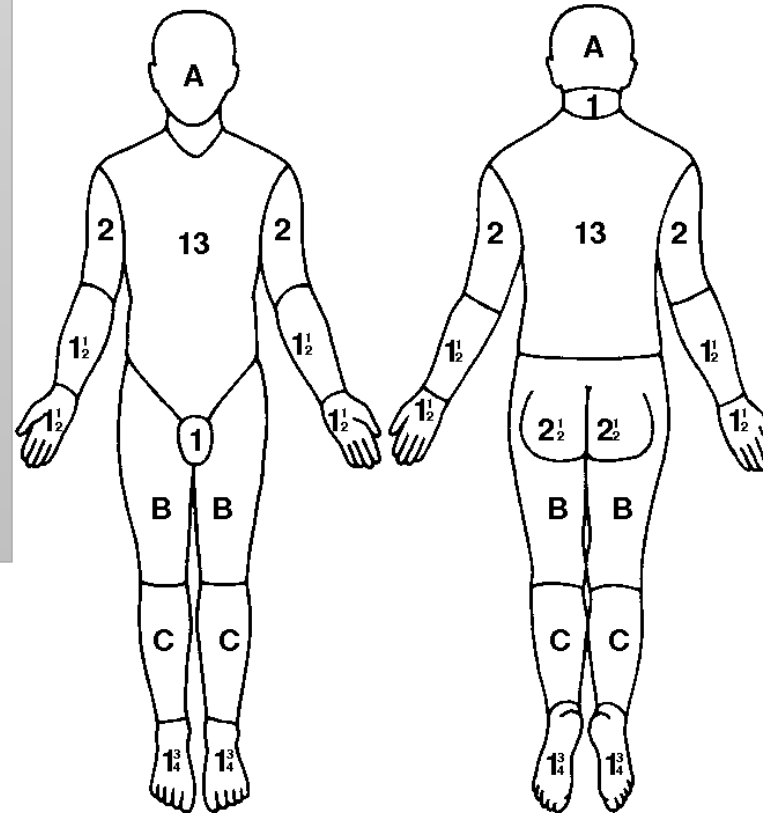
A BURN CHART

NAME _____ WARD _____ NUMBER _____ DATE _____

AGE _____

An adult can have all skin removed from the tip of their fingers to under their armpit on a single arm and have **ONLY???** A 10% 3rd degree burn!

LUND AND BROWDER CHARTS



Ignore simple erythema.

 Superficial

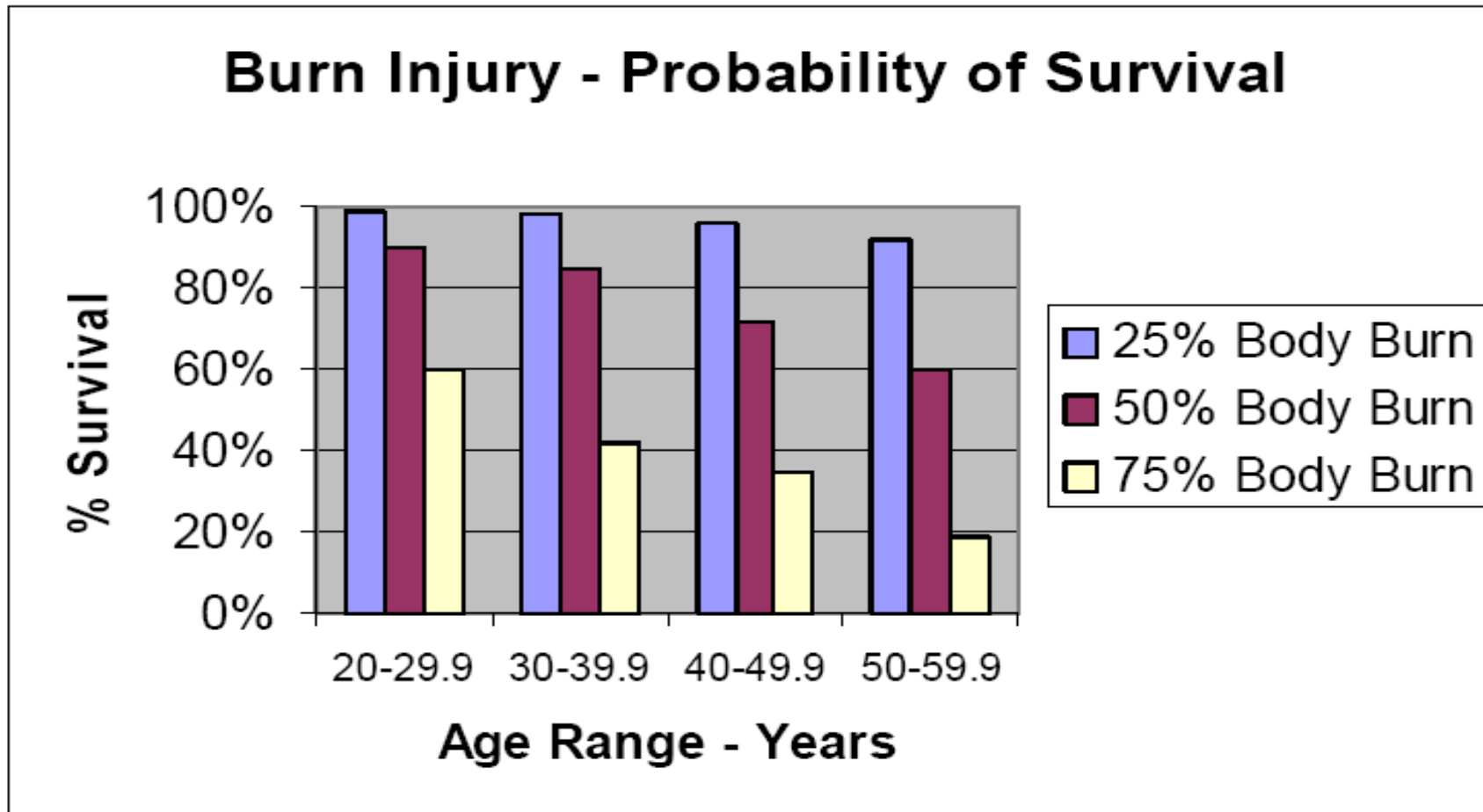
 Deep

REGION	%
HEAD	
NECK	
ANT. TRUNK	
POST. TRUNK	
RIGHT ARM	
LEFT ARM	
BUTTOCKS	
GENITALIA	
RIGHT LEG	
LEFT LEG	
TOTAL BURN	

RELATIVE PERCENTAGE OF BODY SURFACE AREA
AFFECTED BY AGE

AREA	AGE 0	1	5	10	15	ADULT
A = 1/2 OF HEAD	9 1/2	8 1/2	6 1/2	5 1/2	4 1/2	3 1/2
B = 1/2 OF THIGH	2 3/4	3 1/4	4	4 1/2	4 1/2	4 3/4
C = 1/2 OF ONE LOWER LEG	2 1/2	2 1/2	2 3/4	3	3 1/4	3 1/2

Burns



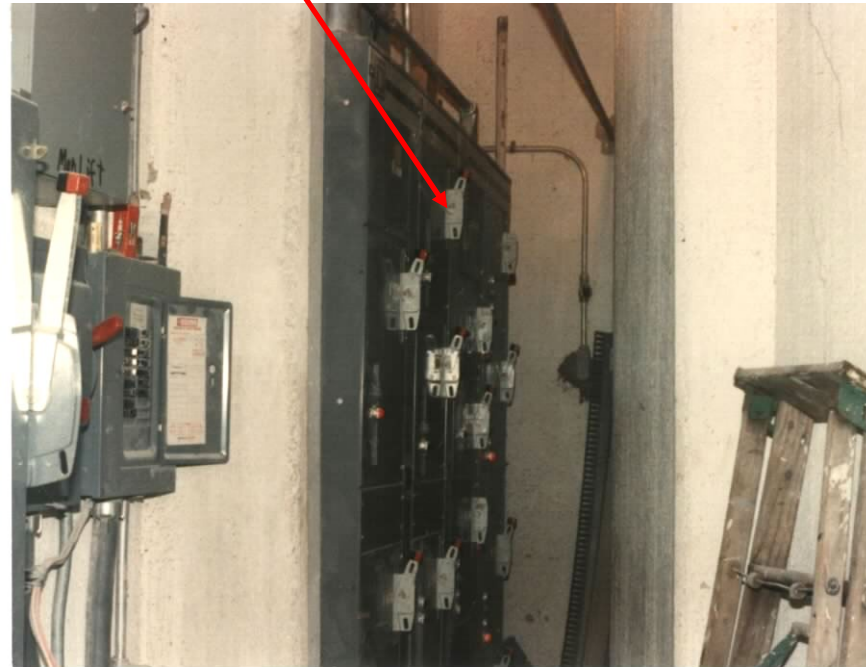
Arc Blast

Working inside MCC
while trucks dumping
with equipment
energized. Note
working clearance.

1989



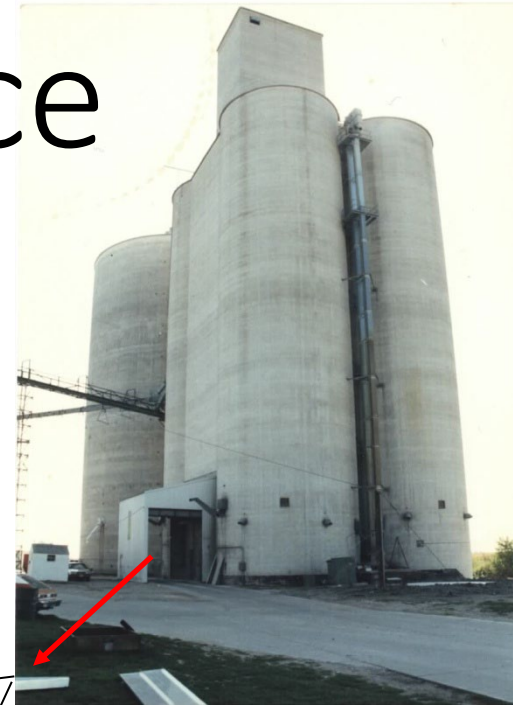
While working inside
dump area arc flash
occurred.



Heat and Force



1 ½" Steel door was thrown through the door stops and landed over 40 feet away.



Grass where door landed.

Clothing



Notice that the shirt was blown apart but was made of 100% heavy cotton.

Roger had just removed his leather work gloves and set them on top of the MCC.

BURNS

Roger was wearing safety glasses at the time of the incident. He spent 10 days in the **Sioux City burn center.**



Arc Flash Study

The employer of the worker was a national hotel chain with over 575 hotels throughout the United States and Canada. The company had been in business for over 30 years and had approximately 9,000 employees. The hotel where the worker worked had 67 employees. The worker had worked for the hotel for three months. He was hired as a maintenance worker and his duties were to perform janitorial functions, minor repairs, and preventative maintenance. The worker had worked as a welder and computer programmer before taking this job. According to the hotel manager, the worker's past work experience qualified him to perform the duties he had been assigned at the hotel. The worker's job description did not include changing fuses in the electrical panel. The worker was born in Mexico and had been in the United States for 17 years. The worker was a high school graduate and spoke English and Spanish.

Location

The site of the incident was an enclosed electrical room in the hotel at the top floor of the garage where an electrical panel was housed. The worker had access to this electrical room but only to turn on and off the power to different systems throughout the hotel.



Cubicle



The day of the incident was a Sunday and the hotel had limited staff working. The power to the lights in the garage had gone out and the assistant manager for the hotel asked the worker to “check out” the problem. The worker went to the enclosed electrical room and opened a cover on an electrical switch to expose a burned out fuse.



Knowledge/Qualifications

The worker then called the maintenance supervisor at home and the supervisor told him not to touch the fuse. Despite the supervisor's warning, he removed the burned 30 amperage barrel-type fuse from the panel and proceeded to replace it with a blade-type fuse of different amperage.



When he did this, an electrical flash occurred, burning the worker's arms and face. Although the company had a standard safety electrical procedure for changing fuses, the worker had not been trained in the procedure and consequently did not follow it. The worker was able to exit the electrical room by himself and call for help.

When the paramedics arrived they found the worker conscious and treated his injuries. They then transported him to a local hospital where he was examined and treated.

The worker was then transferred to a burn unit where he complained of shortness of breath and was intubated as a precautionary measure. His respiratory status remained unstable and a bronchoscopy was performed and confirmed an inhalation injury. The worker's condition worsened over time and he died on September 2, 2006, five days after the incident.

39 Years Old 20% Burn to Arms, Face, and Hands resulted in a fatality!

Arc Flash Study

On September 2, 2006, at approximately 7:00 a.m., a 39-year-old hotel maintenance worker died from injuries he received on August 27, 2006, from an electrical flash burn and inhalation injuries when he attempted to change a fuse in an electrical panel. The CA/FACE investigator learned of this incident on September 6, 2006, through a facsimile from the Los Angeles District Office of Cal/OSHA. Contact with the worker's employer was made on November 2, 2006. On December 13, 2006, the CA/FACE investigator traveled to the hotel where the incident occurred and interviewed company managers, supervisors, and other interested parties. The area where the incident took place was photographed and examined.

The National Institute for Occupational Safety and Health (NIOSH)

NIOSH > Workplace Safety and Health Topics > Fatality Assessment and Control Evaluation(FACE) Program

🏠 Workplace Safety and Health
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Evaluation(FACE) Program

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FATALITY ASSESSMENT AND CONTROL EVALUATION (FACE) PROGRAM

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Updated October 27, 2022

What's New



This page contains a list of new FACE and State FACE reports and products.

October

