

ASSP New England Area PDC

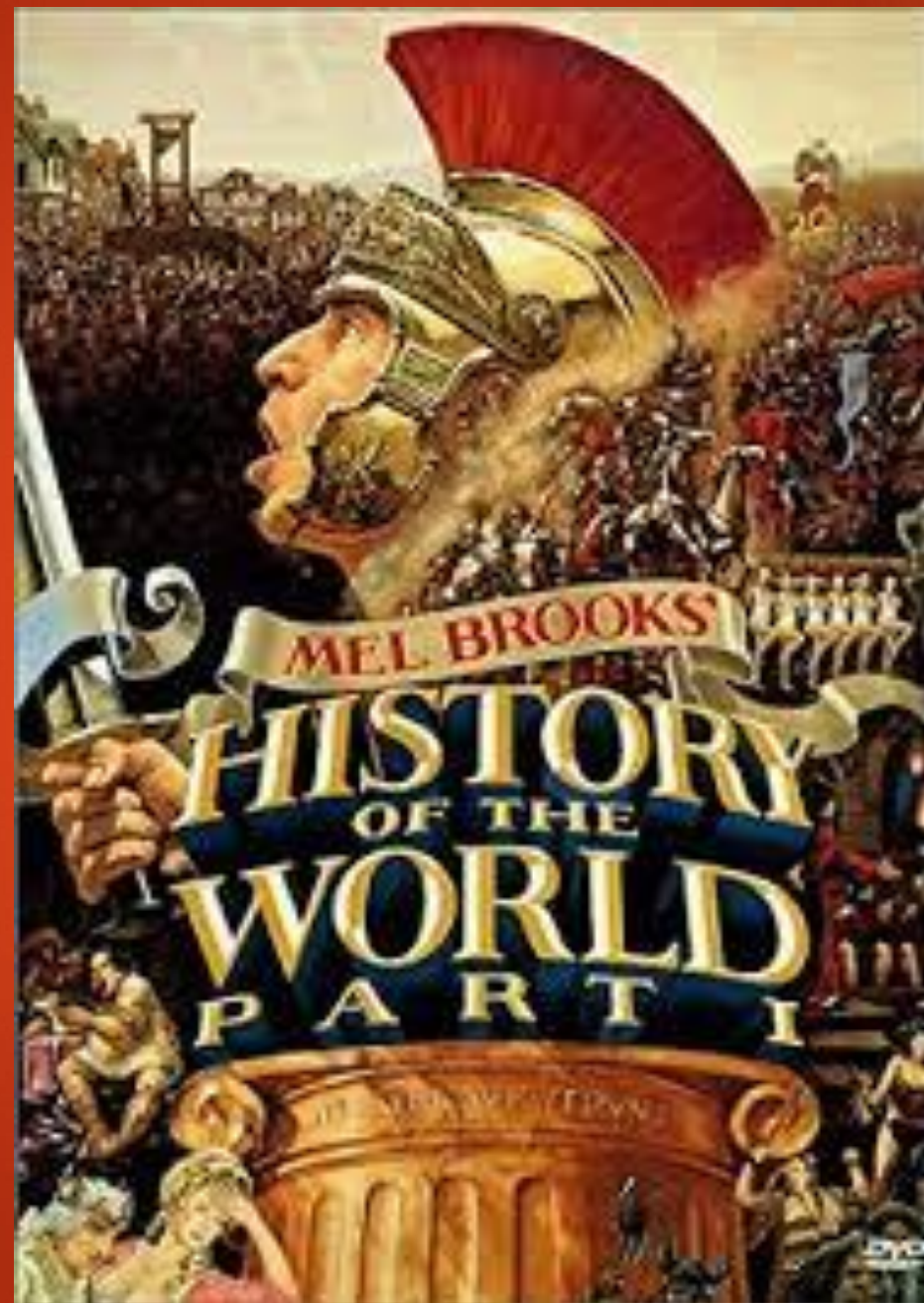
JOHN P. SPATH CSP (RET)

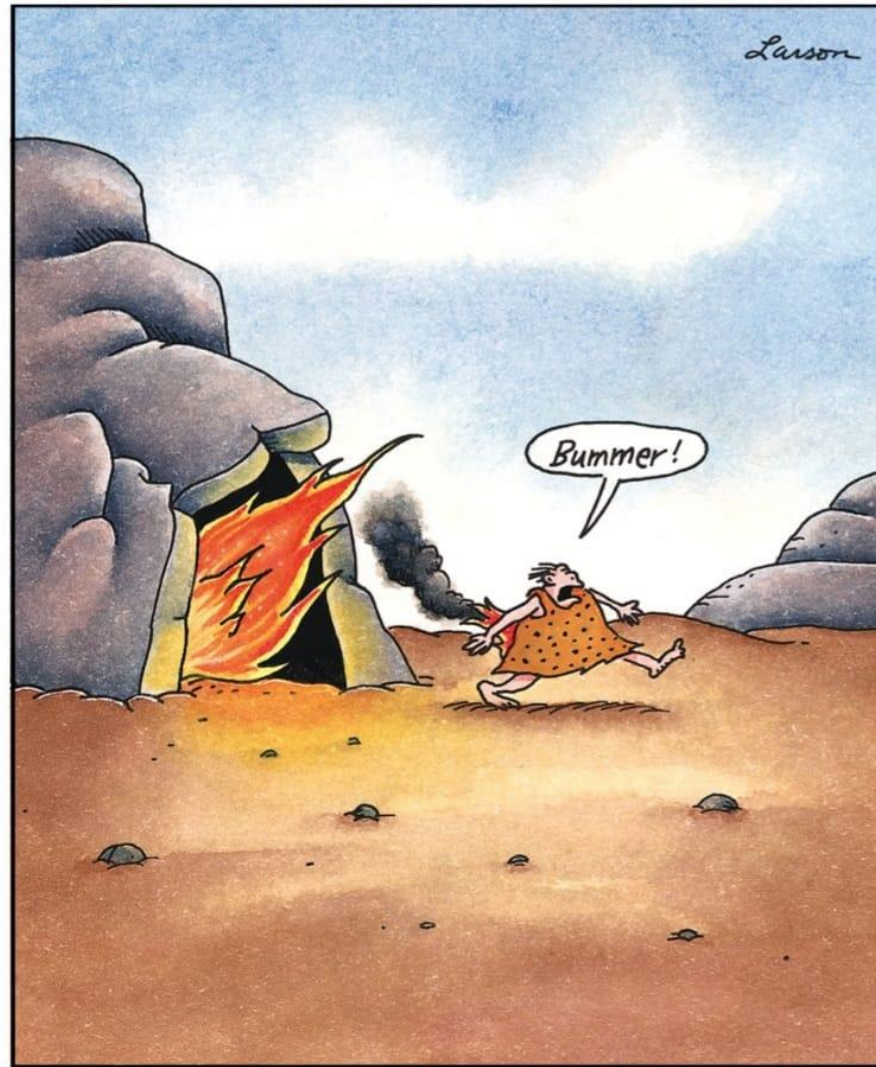
THE SAFER PATH



THE HIERARCHY OF CONTROLS

IS IT TIME TO REDEFINE?





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Some anthropologists believe that the discoveries of fire, shelter, and language were almost simultaneous.



Early experiments in transportation

FLY-FIX-FLY

Prior to 1940 safety could be compared to a trial and error process called “fly-fix-fly,” a term associated with having an aircraft make a circuit and if it broke, they would fix it and fly it again, repeating until the real problem was fixed.





1950: National Safety Council Introduces Hierarchy of Controls

THIS MODEL WAS CREATED TO SHOW THAT THAT DESIGN, ELIMINATION AND ENGINEERING CONTROLS SHOULD BE USED AND/OR EXHAUSTED FIRST, AS THEY ARE THE MOST EFFECTIVE WHEN AVAILABLE.

Hierarchy of Controls

Most
effective



Least
effective

Elimination

Physically remove
the hazard

Substitution

Replace
the hazard

**Engineering
Controls**

Isolate people
from the hazard

**Administrative
Controls**

Change the way
people work

PPE

Protect the worker with
Personal Protective Equipment

HOW HAS THE WORLD
CHANGED SINCE?





**Occupational
Safety and Health
Administration**

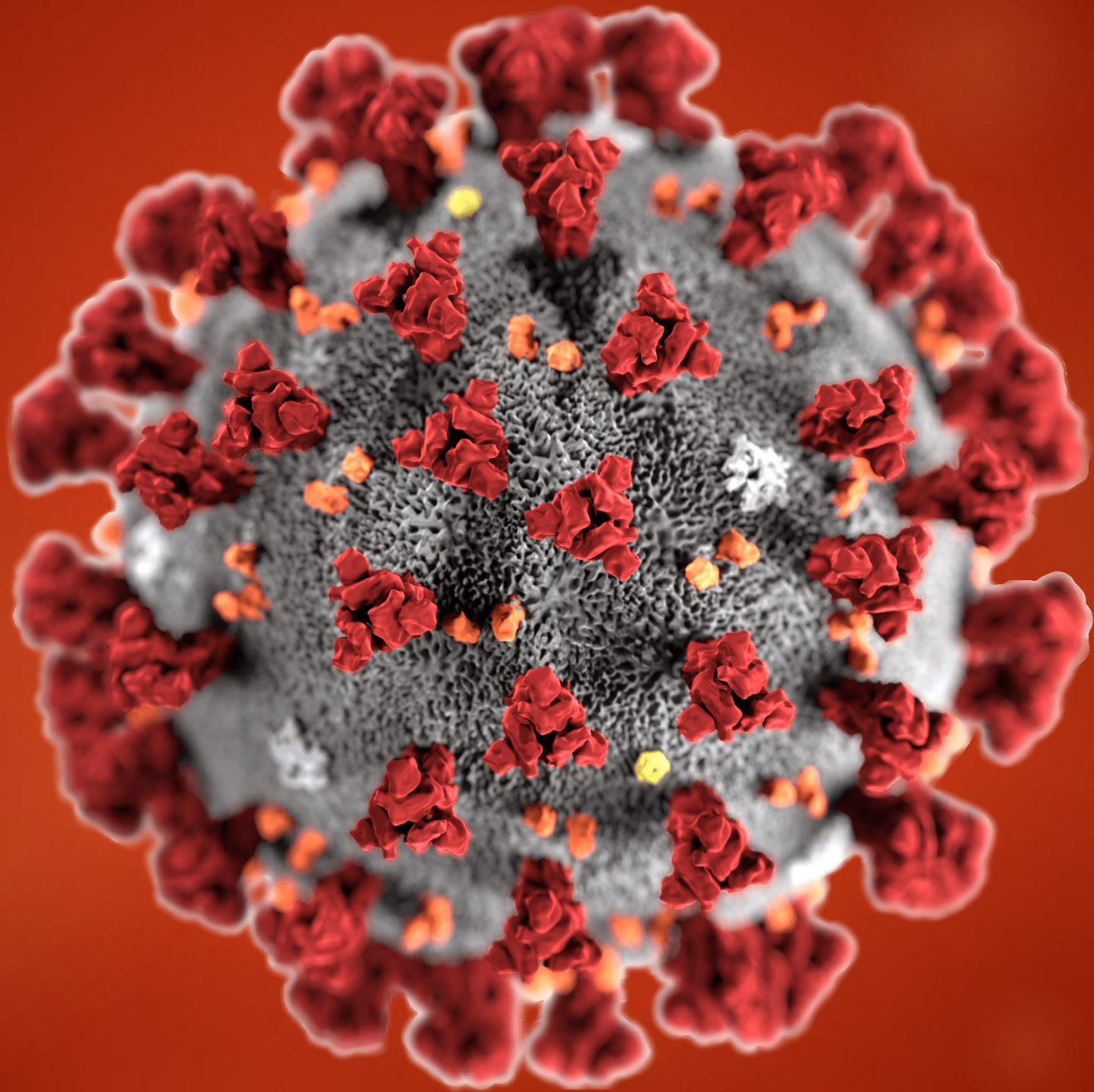
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BCSP

**Since 1969, over 100,000
BCSP credentials have
been achieved.**

**More people are entering
the field with specific
training i.e. Safety
Health & Environmental
Degrees**





ZOOM MEETINGS



CHANGES TO TRAVEL

2001 to 2020



Current





Raytheon developed the first microwave oven in 1946, but it took two decades for the technology to become commercially successful. The company's Radarange III [above] debuted in 1955 and was sold in limited quantities to restaurants.

Today

90 percent of American homes have microwave ovens. And though Spencer never profited from his patent on the device, his early snack experiments were prophetic; many of us use our microwaves most often to pop popcorn and, some pastry chefs argue, a few seconds in the microwave is simply the best way to melt chocolate.





Martin Cooper photographed in 2007 with his 1973 handheld mobile phone prototype

Evolution of the Mobile Phone



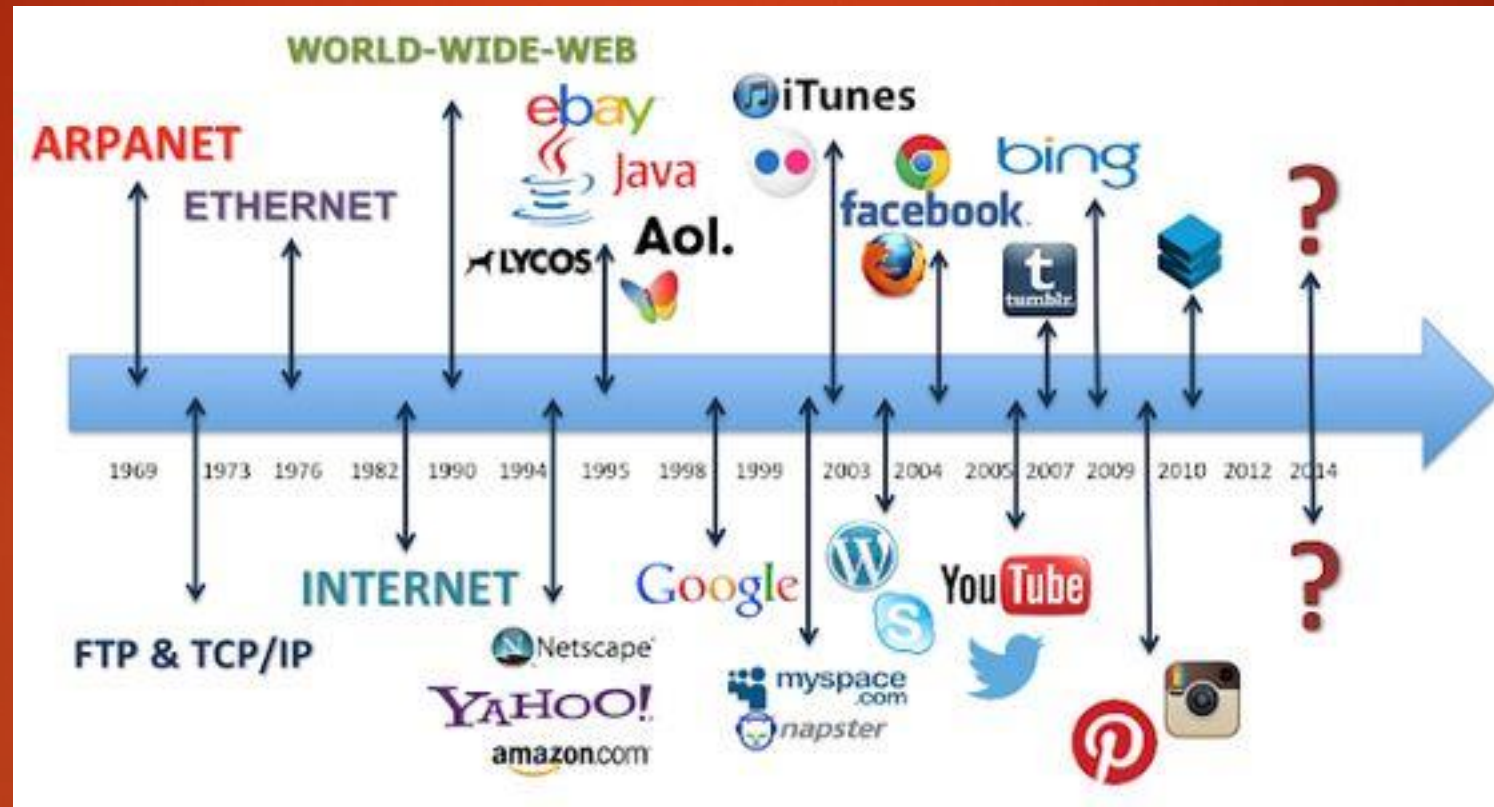


I asked my daughter to give me
the phone book. She laughed
at me, called me a dinosaur and
lent me her iPhone.

So the spider is dead, the iPhone
is broken and my daughter
is furious!



FIRST TEXTING, or SMS (short message service) STARTED IN 1992



In 2019, the Internet turned 50 years old.



A friendly reminder during the web's birthday by The web Foundation. The web and the internet are not the same things. Tim Berners Lee invented the web, and Vint Cerf invented the internet.

Prevention Through Design





Partnering Organizations in 2007:

- National Institute of Occupational Safety and Health (NIOSH)
- American Industrial Hygiene Association (AIHA)
- American Society of Safety Engineers (ASSE) – now ASSP
- Center for Construction Research and Training (CPWR)
- Kaiser Permanente
- Liberty Mutual
- National Safety Council (NSC)
- Occupational Safety and Health Administration (OSHA)
- ORCHSE Strategies, LLC (formerly Mercer, ORC Worldwide™)
- Regenstrief Center for Healthcare Engineering and
- Association of Equipment Manufacturers

PTD MISSION

- ▶ Eliminating hazards and controlling risks to workers to an acceptable level "at the source" or as early as possible in the life cycle of equipment, products, or workplaces.
- ▶ Including worker safety and health in design, redesign and retrofit of new and existing work premises, structures, tools, facilities, equipment, machinery, products, substances, work processes and the organization of work.
- ▶ Enhancing the work environment through the inclusion of prevention methods in all designs that impact workers and others on the premises.

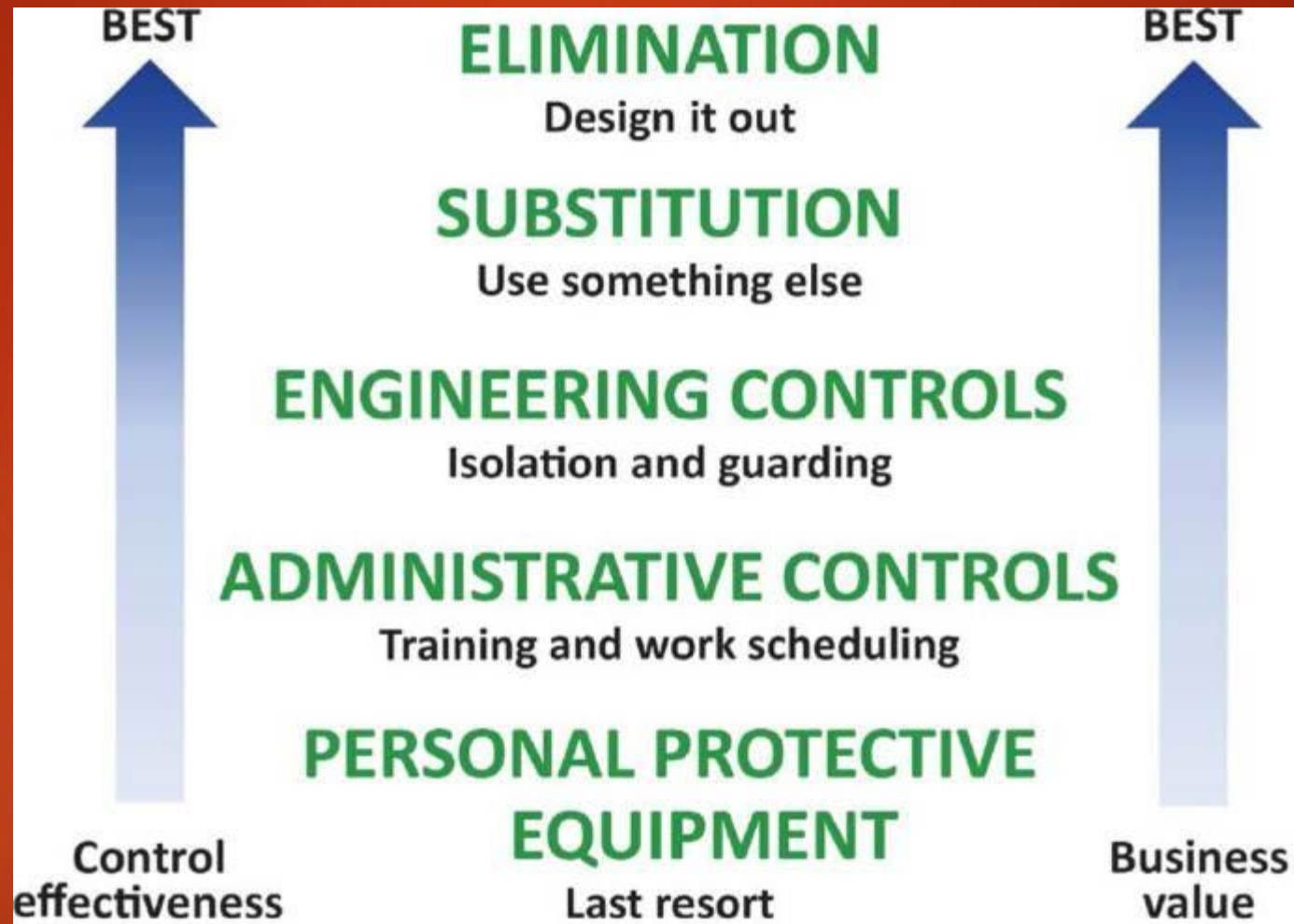


Figure 1. Prevention through Design using hierarchy of controls [Peterson 1973]

Hierarchy of Controls

Most
effective



Least
effective

Elimination

Physically remove
the hazard

Substitution

Replace
the hazard

**Engineering
Controls**

Isolate people
from the hazard

**Administrative
Controls**

Change the way
people work

PPE

Protect the worker with
Personal Protective Equipment

What's next?

IF YOU COMPLAIN WITHOUT SOLUTIONS YOU'RE JUST WHINING.

Hierarchy of Controls

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ELIMINATION & SUBSTITUTION

THESE TOP 2 LEVELS ARE REDUNDANT



ELIMINATION & SUBSTITUTION

SUGGESTION TO COMBINE INTO
VETTING THE CONCEPT AND THE COMPONENTS

Lorillard Tobacco

It's hard to think of anything more reckless than adding a deadly carcinogen to a product that already causes cancer—and then bragging about the health benefits.

KENT — and KENT alone — has the exclusive MICRONITE FILTER. It removes far more tars and nicotine than any other filter cigarette — long size or regular, old or new.

Smokers: Here's proof you can see...

KENT

gives greater protection than any other cigarette

KENT — and only KENT — can show you this visual proof of greater protection — as important to at least 3 out of 5 smokers' medical experts as is sensitive to tars and nicotine!

To show you scientific proof of the greater effectiveness of KENT's Micronite Filter over other types of filter cigarettes — using special glasses, made with carbon through which smoke can be drawn, we set out a chart of plain white paper.

Smoke from KENT is drawn into one glass, smoke from a regular type filter cigarette into the second, smoke from a soft tissue type filter cigarette into the third. The results is shown on the glass just as it would enter your mouth.

When tar particles and nicotine have settled, see the white left by nicotine in the middle of the other types of filter cigarettes — see, now, clearly, a trace from KENT — hard proof that KENT removes far more tar and nicotine!

Enjoy **KENT** with exclusive Micronite Filter

for the greatest protection you can get in any cigarette

*Based on "Micronite" registered trademark of R. J. REYNOLDS COMPANY



RISK CONTROL AT AN ACCEPTABLE LEVEL

- ENGINEERING CONTROLS (PTD)
- ADMINISTRATIVE CONTROLS



Engineering Controls

WORKER SAFETY AND HEALTH CONSIDERATIONS IN

- DESIGN
- REDESIGN AND
- RETROFIT



ENHANCING THE WORK ENVIRONMENT
THROUGH THE INCLUSION OF PREVENTION
METHODS IN ALL DESIGNS THAT IMPACT
WORKERS AND OTHERS ON THE PREMISES.

Modify Administrative Controls

CHANGING THE WAY PEOPLE WORK

- TRAINING
- SCHEDULING AND
- ENHANCED PPE



Traditional Personal Protective Equipment

WEARING PPE WHEN OTHER CONTROL
MEASURE HAVE FAILED TO MINIMIZE THE
EFFECT OF EXPOSURES



Our Mission In Safety

TO DETERMINE HOW TO ACCOMPLISH WORK
SAFELY

EFFECTIVENESS

BEST



LEAST

VETTING

RISK CONTROLS

TRADITIONAL PPE



COMMENTS
THOUGHTS
QUESTIONS



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