IBEW 104 OSHE Field Guidance

Understanding NRA, HLT, and System Protection Differences

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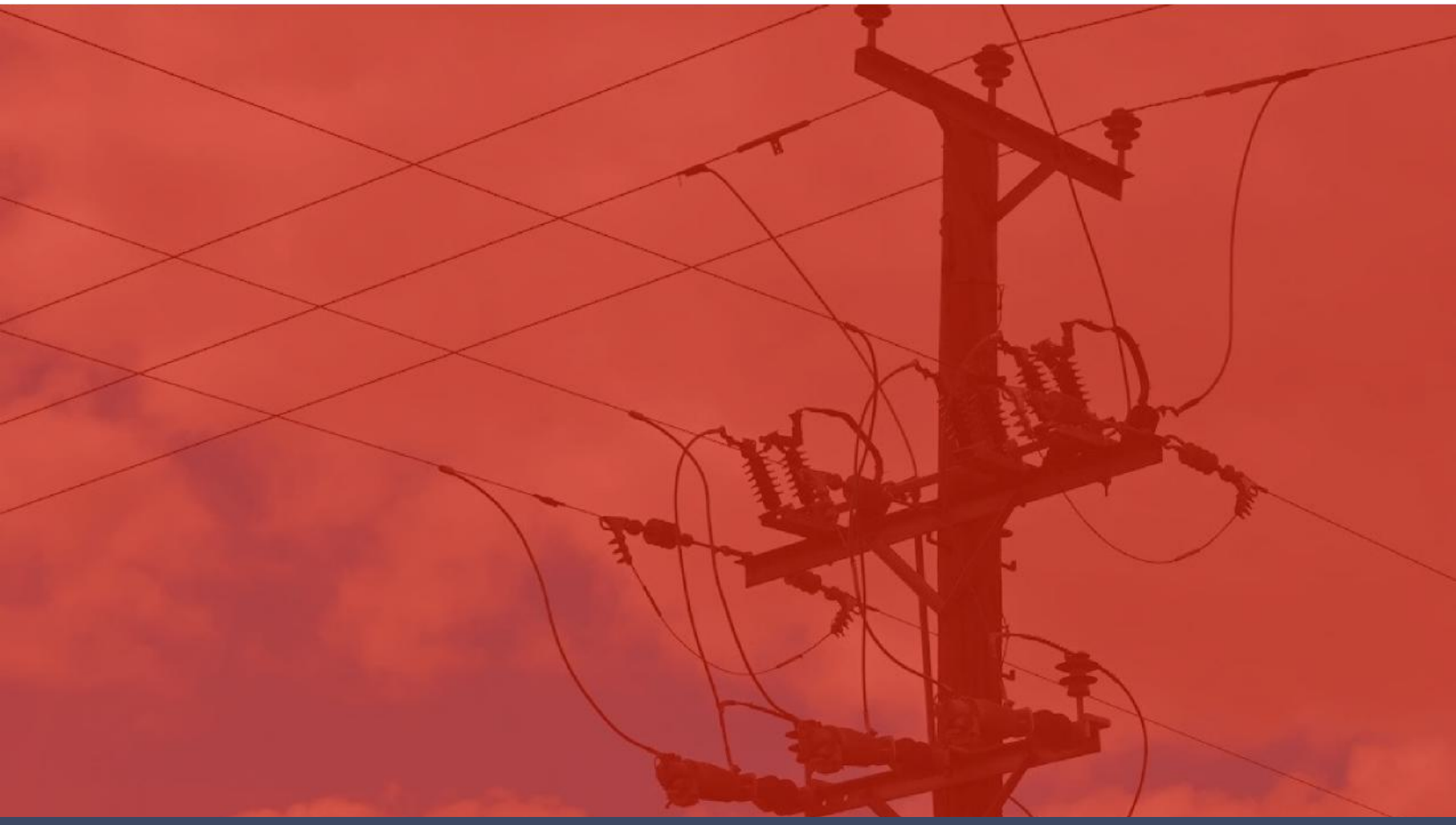
IBEW 104 OSHE

WHY YOU'RE SEEING DIFFERENT REQUIREMENTS

With work spanning multiple utilities, 5 states, and storm regions, members often ask:

- **Do I need an NRA?**
- **Do I need a Hot Line Tag?**
- **Why does one utility require this but another doesn't?**

These differences are not random. They are driven by how each system is designed and protected, and how that protection affects the hazard to workers.



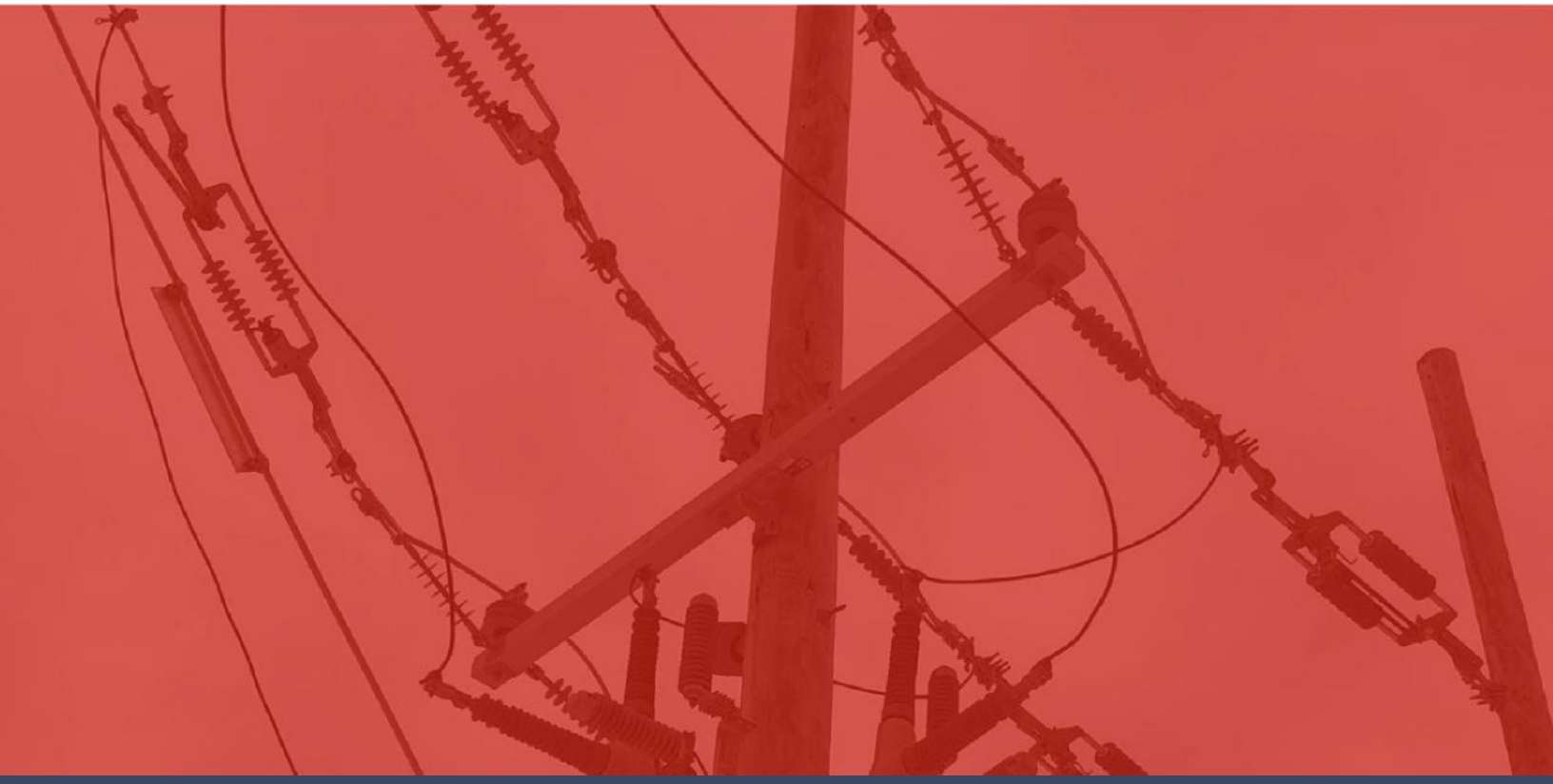
WHAT OSHA ACTUALLY REQUIRES

OSHA directly requires disabling automatic reclosing if the circuit is equipped in only two situations:

- **When conductors being installed or removed cross over energized conductors above 600 volts**

- **During live-line barehand work**

Everything else falls under OSHA's requirement to perform a hazard assessment. Many utilities meet this requirement through an NRA or similar documented process. When a utility requires an NRA, it is typically how they document the hazard for the specific work being performed.



WHY SYSTEM PROTECTION CHANGES THE HAZARD

.System protection determines how a fault clears.

• Fault-clearing time affects incident energy

• Incident energy affects PPE requirements and potential injury severity

For linemen, the practical takeaway is simple: slower clearing times increase arc flash energy, and faster clearing times reduce arc flash energy. That difference can be the line between a survivable event and a life-threatening one.

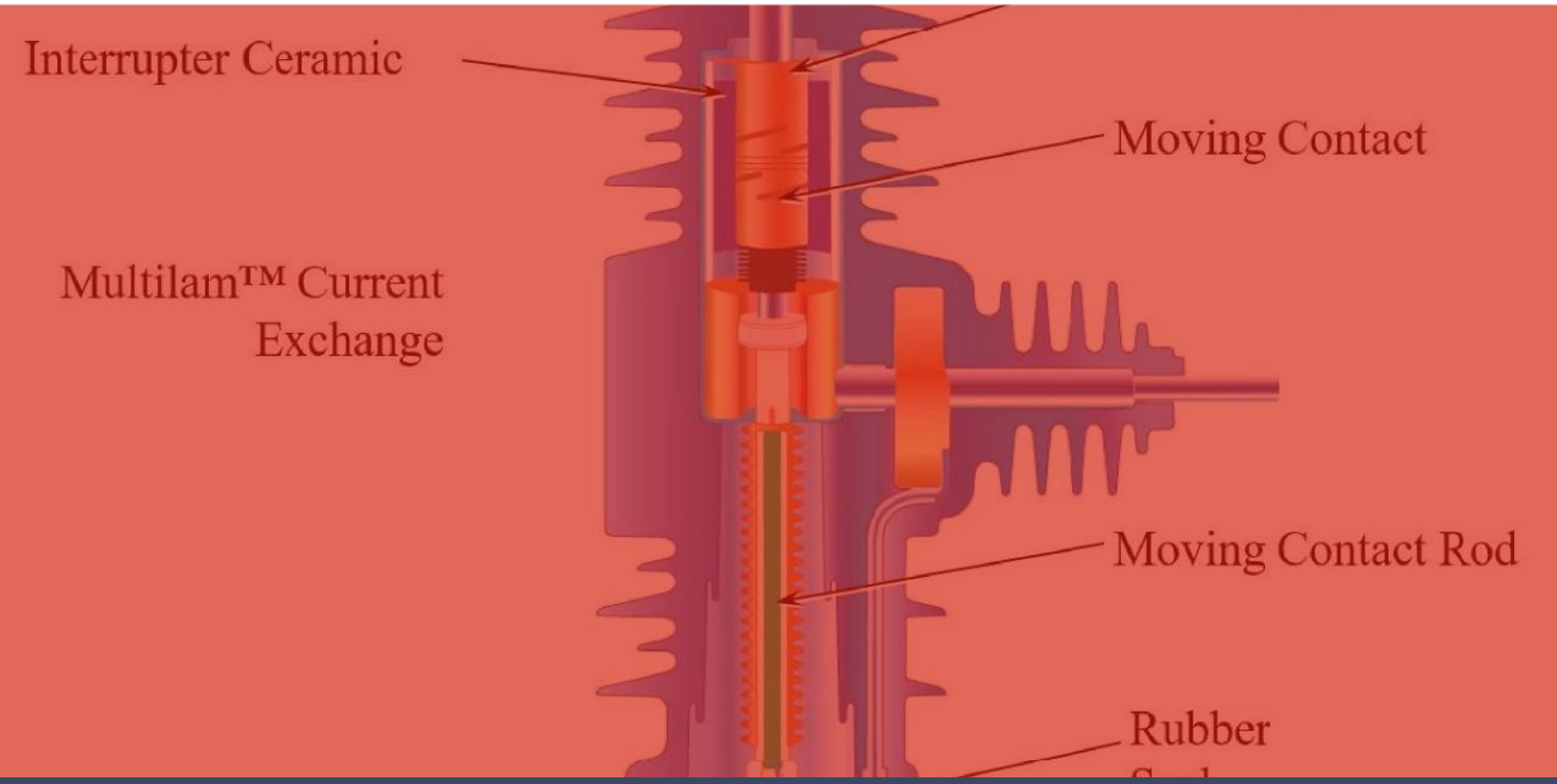
RECLOSING AND CLEARING TIME

.● If reclosing is active or instantaneous is blocked, faults may clear on slower curves

● Slower curves mean higher incident energy

● If reclosing is disabled and instantaneous is available, faults may clear faster

The same job, at the same location, can present very different hazards depending on protection settings.



FUSE SAVING VS FUSE BLOWING

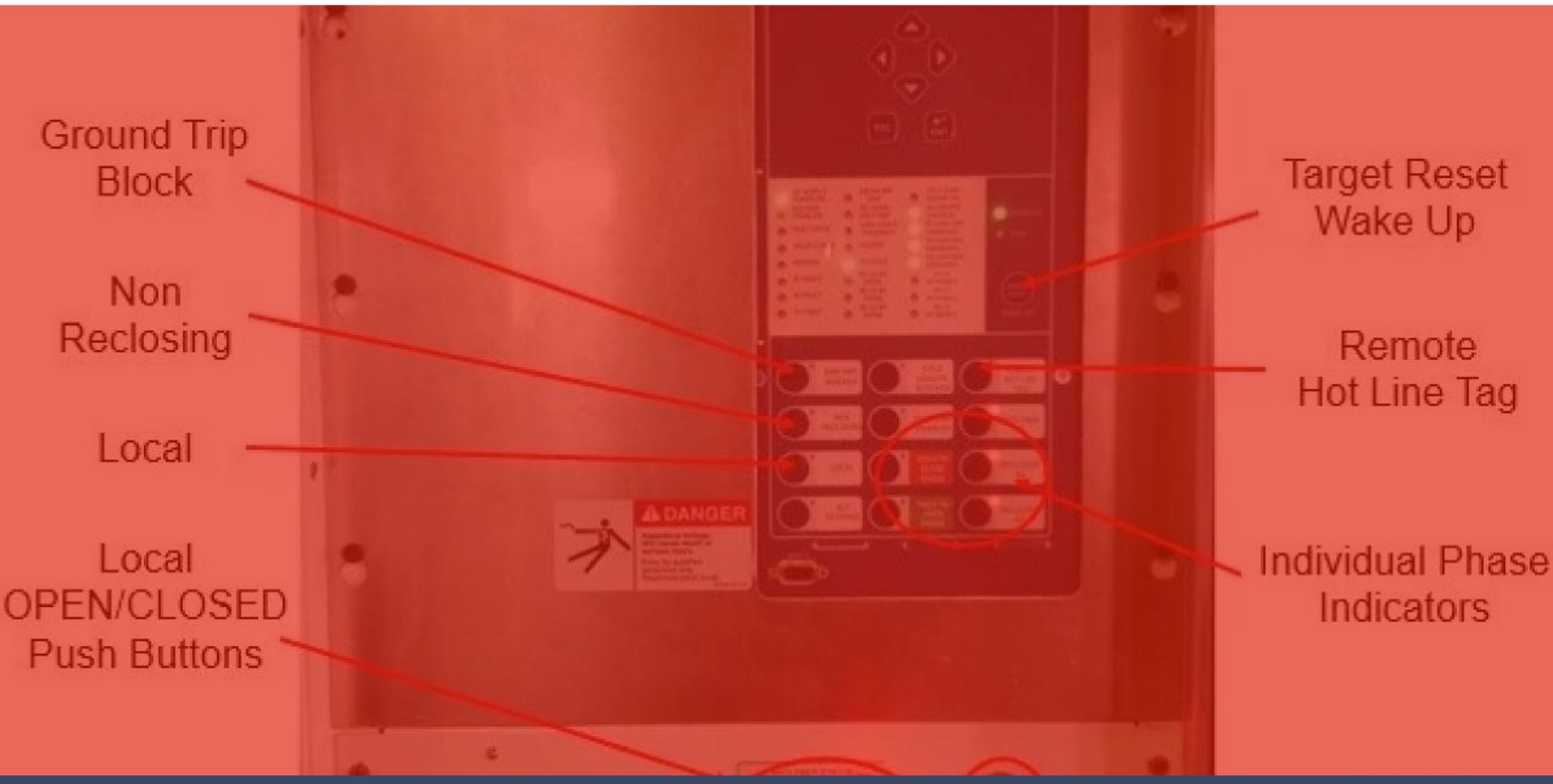
.**Fuse Saving**

- **First shot often uses a fast curve to clear temporary faults**
- **Later shots may be slower, allowing the fuse to operate**
- **Clearing time changes through the sequence, changing the hazard**

Fuse Blowing

- **The fuse is designed to clear the fault before the upstream recloser**
- **Clearing time depends on fuse type and size**
- **Some fuses clear quickly, others more slowly**

Do not assume which device clears the fault without confirmation or a fuse of any size will clear fast enough.



ONE-SHOT IS A WORKER PROTECTION ISSUE

A common misconception is that one-shot is “for equipment, not workers.” This is not entirely correct.
One-shot does help protect equipment, but it also has a direct impact on worker exposure during a fault.

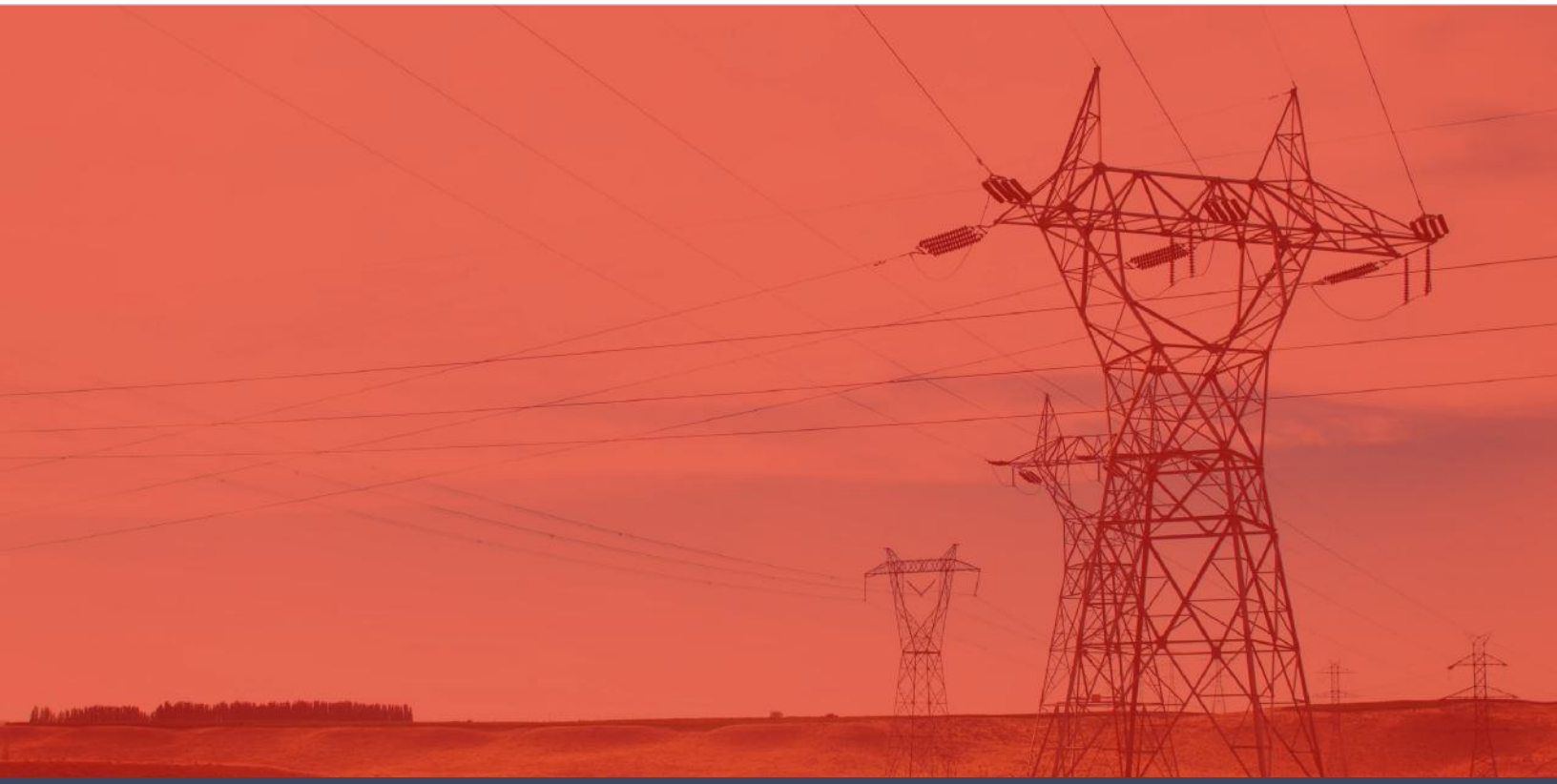
- **Instantaneous clearing may occur in 2 to 6 cycles**
- **Delayed curves may take 20 to 60 cycles or more**

Those extra cycles dramatically increase incident energy and injury severity. One-shot settings affect both equipment protection and worker safety, depending on how the system is designed and coordinated.

SYSTEM CONDITIONS CAN CHANGE DAILY

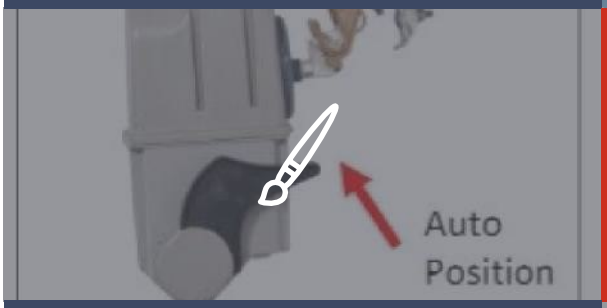
- **Tie switches open or close**
- **Load shifts**
- **Backfeeds appear**
- **Instantaneous may be active one day and blocked the next**

Same location. Same work. Different day, could mean a different protection scheme and different hazard. This is why verifying protection matters every day.



QUESTIONS EVERY LINEMAN SHOULD ASK BEFORE ENERGIZED WORK

What device clears faults here?

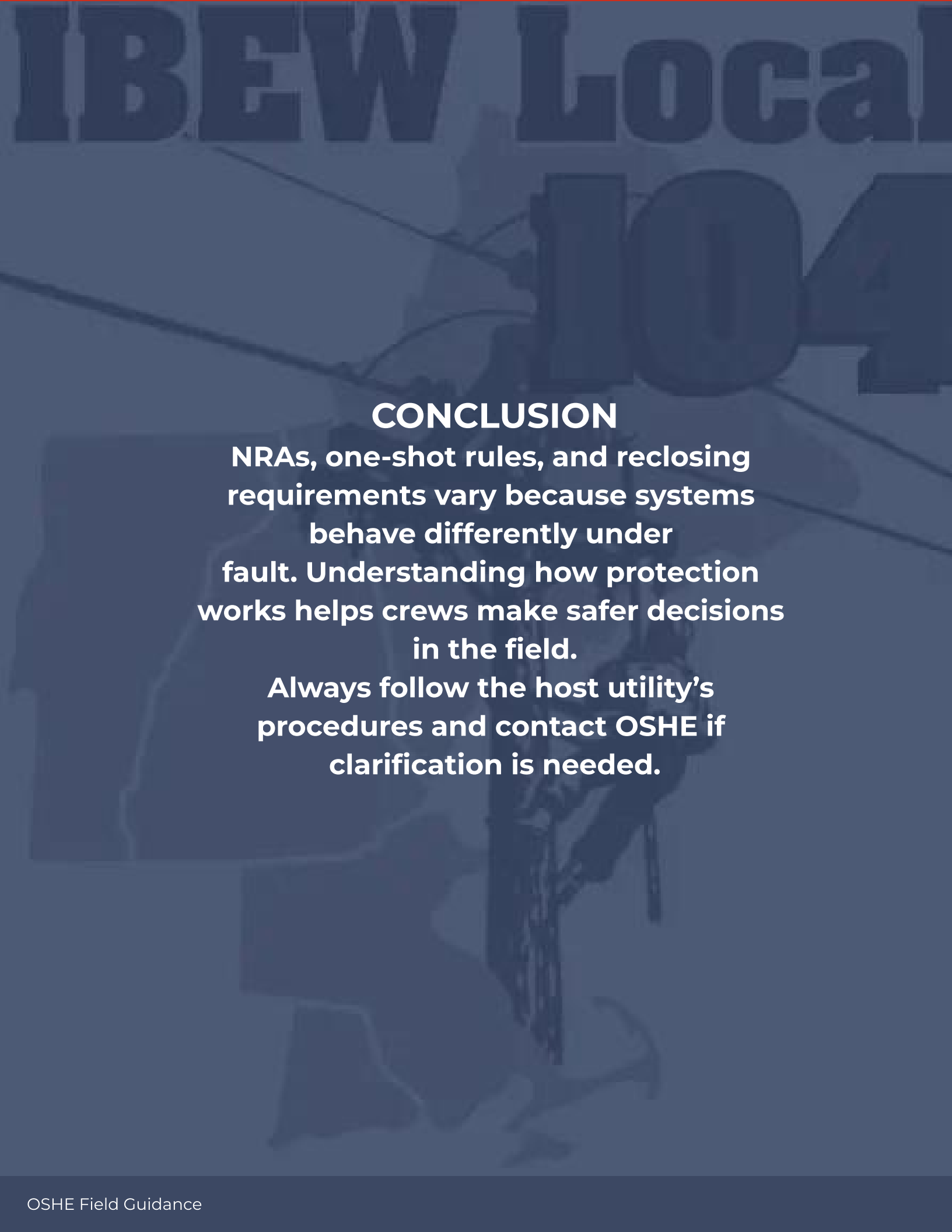


Is instantaneous active?

Is this fuse saving or fuse blowing?

Do I have NRA or HLT for this job?

What are the incident energy values?
PPE requirements?



CONCLUSION

NRAs, one-shot rules, and reclosing requirements vary because systems behave differently under fault. Understanding how protection works helps crews make safer decisions in the field.

Always follow the host utility's procedures and contact OSHE if clarification is needed.