



The Electrical Inspector Experience

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International Association of Electrical Inspectors





Electrical Inspector Feedback

- ❖ IAEI conducted a survey of a select group of electrical inspectors
 - Geographically located throughout the US
 - Represented large and small jurisdictions
 - Out of the 26 inspectors surveyed, 16 responded



Understanding the Inspector Background

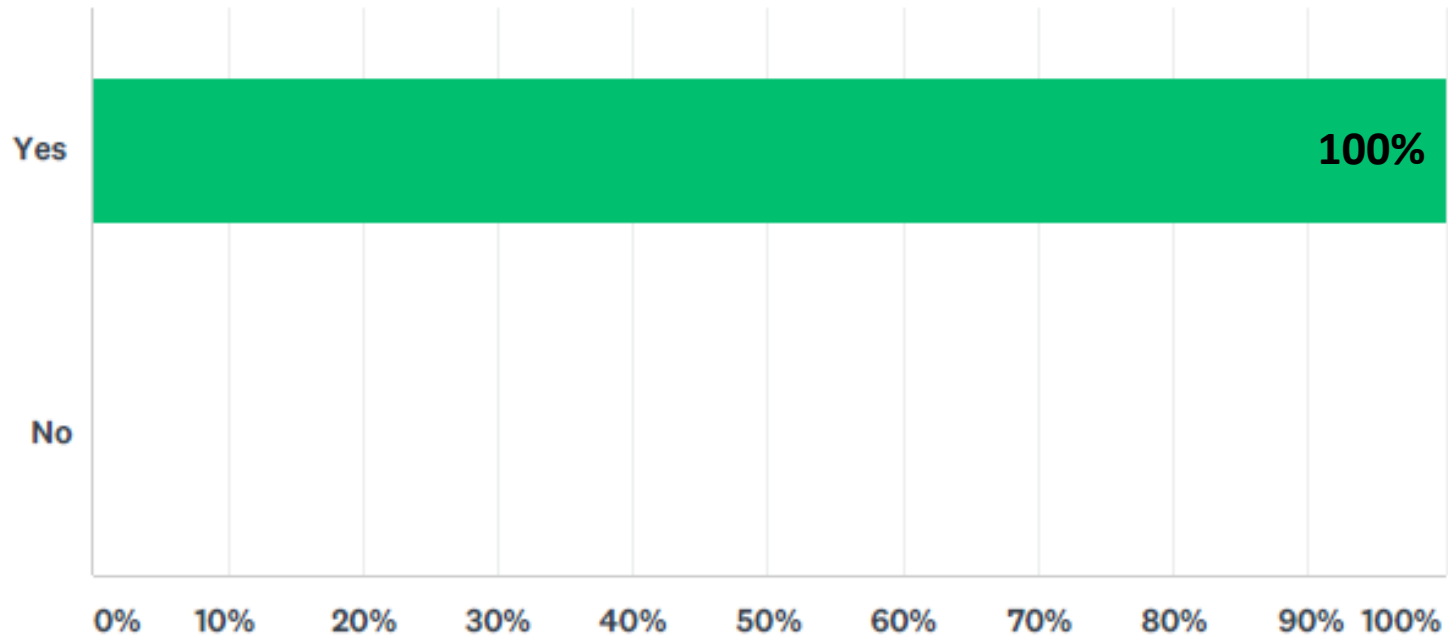
- ❖ An inspector may or may not have electrical training or experience
 - Many are multi-hat inspectors
 - Some have a discipline in plumbing, mechanical or structural and are asked to inspect electrical installations
 - Some will have a background in the electrical field
 - In most cases, an inspector has worked in the trade many years prior to becoming an inspector

IECEX World Symposium:
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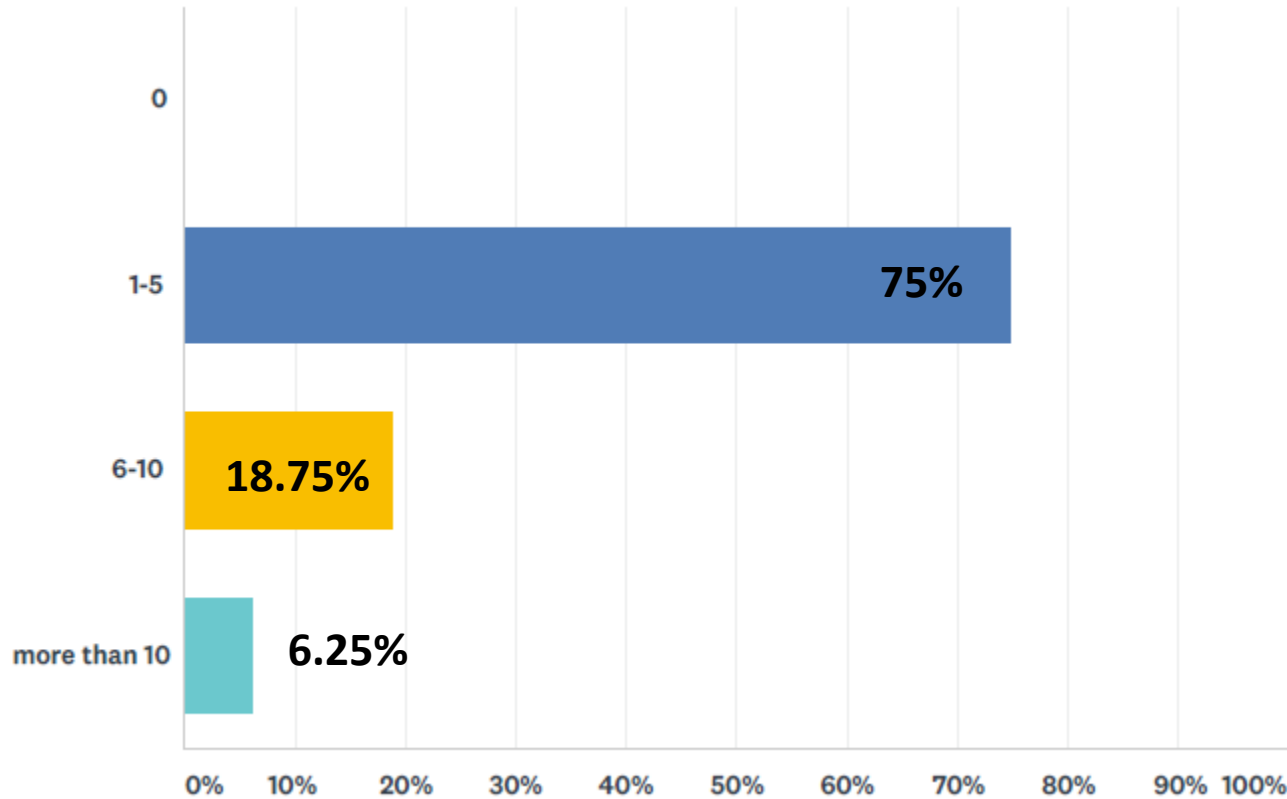


Do you inspect Hazardous (*Classified*) Locations within your jurisdiction?



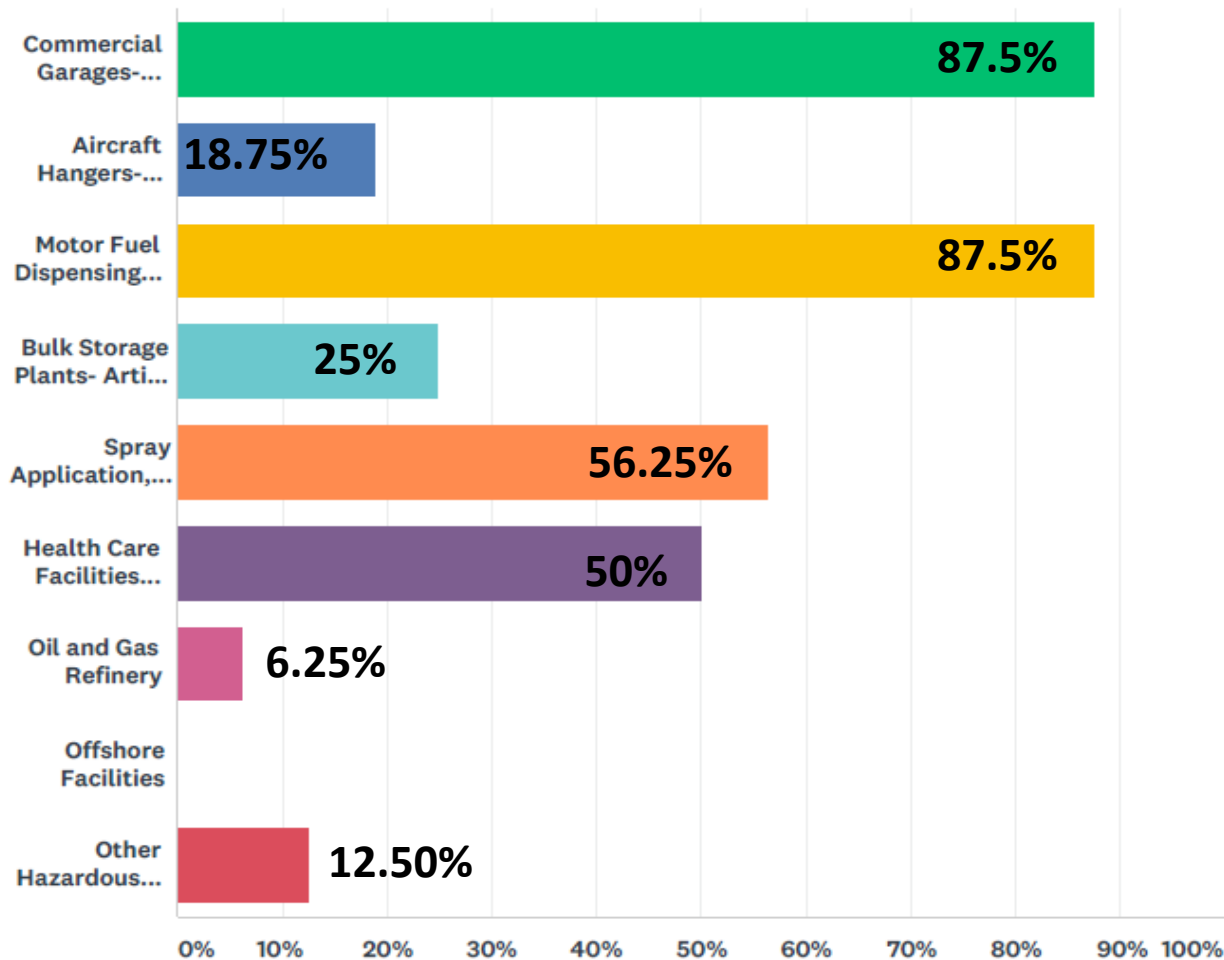


On average, how many inspections of Hazardous (*Classified*) Locations do you conduct monthly?



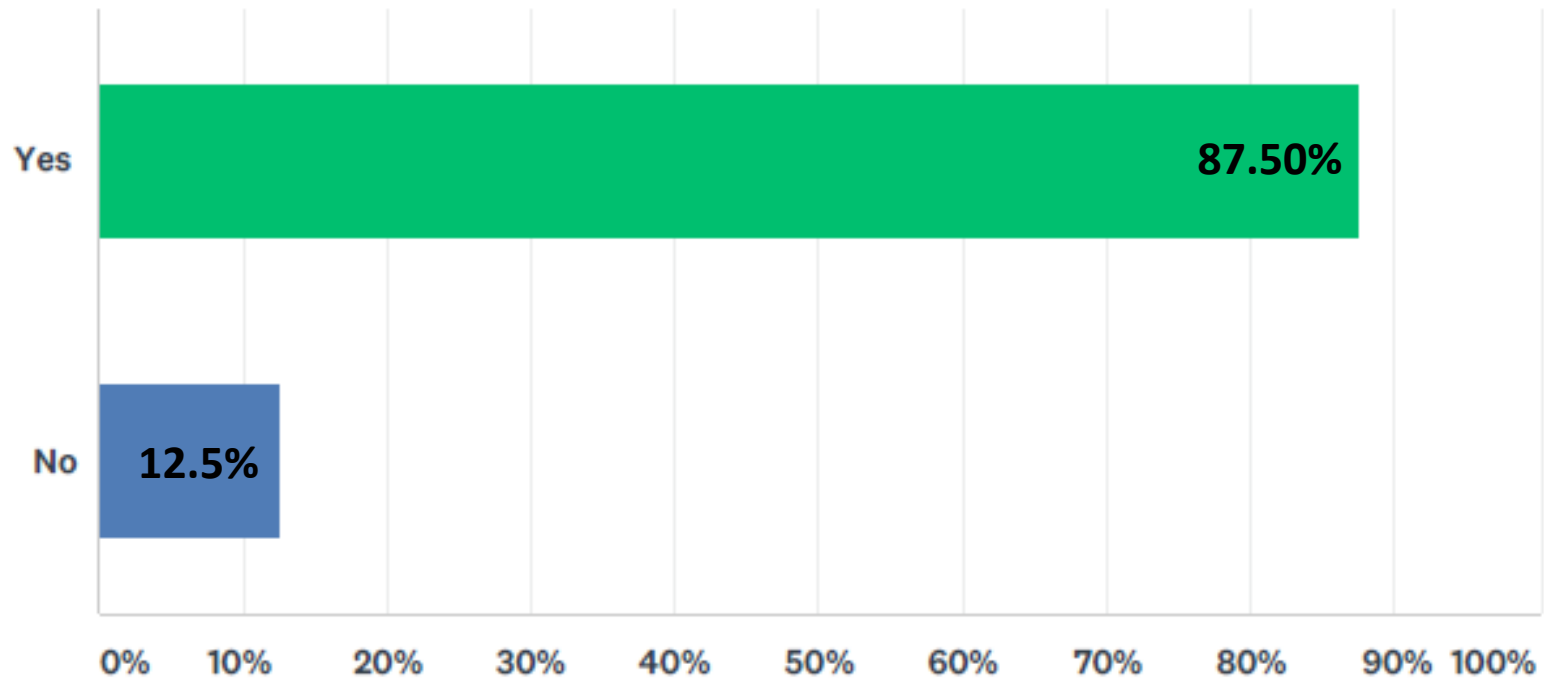


On average, how many inspections of Hazardous (*Classified*) Locations do you conduct monthly?



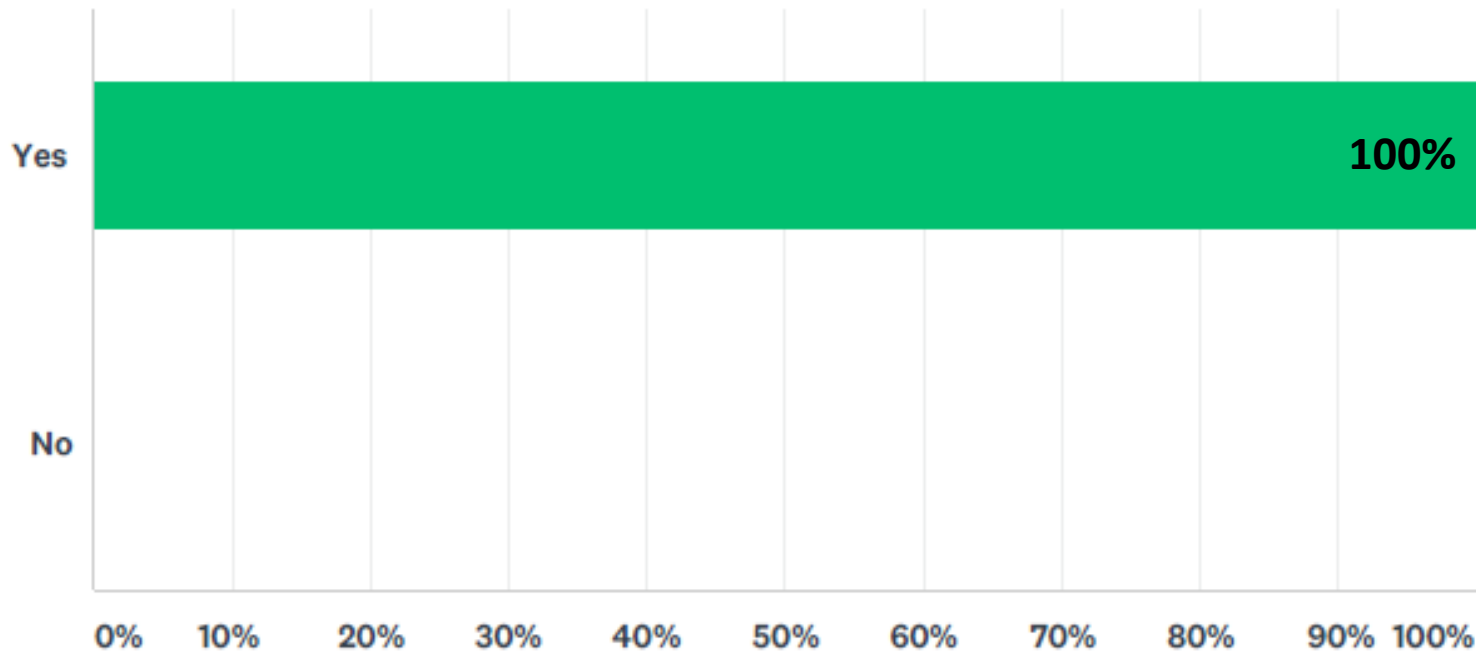


Do you find the inspection of Hazardous (*Classified*) Locations to be challenging?



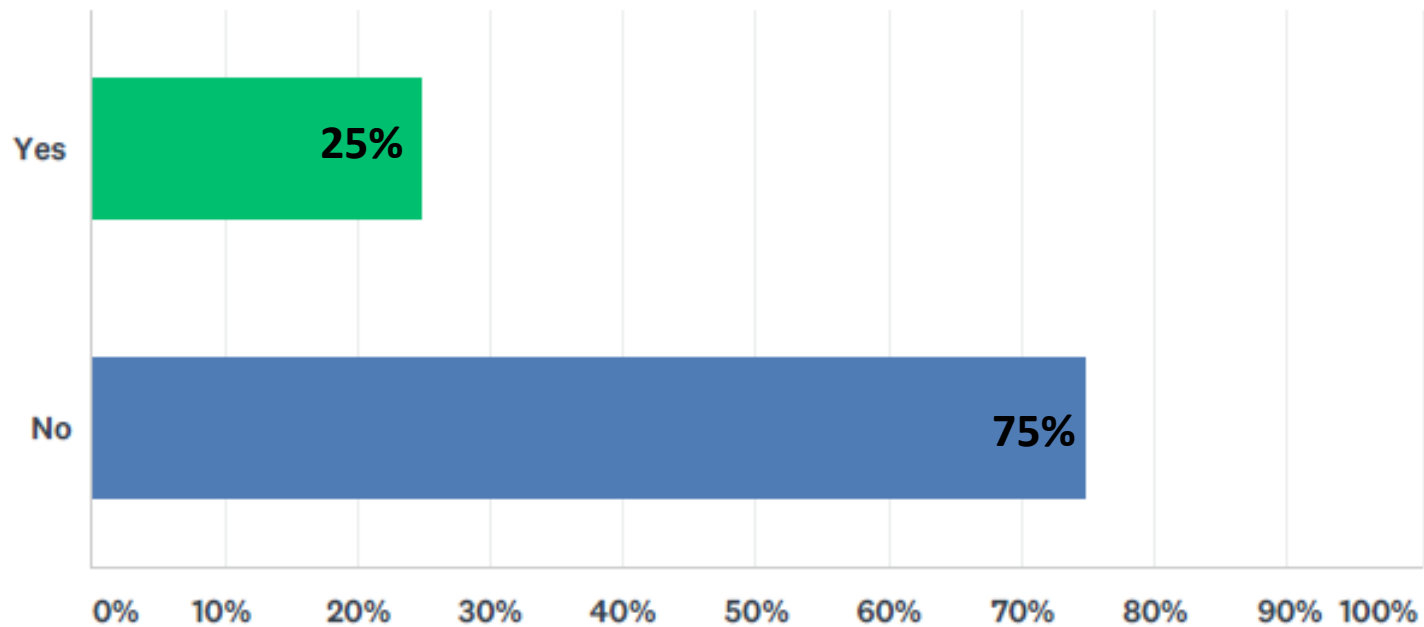


Do you feel comfortable inspecting Hazardous (*Classified*) Locations?





Do you inspect facilities involving Zone electrical equipment? (*Zone 0, 1, 2, 20, 21, and 22*)



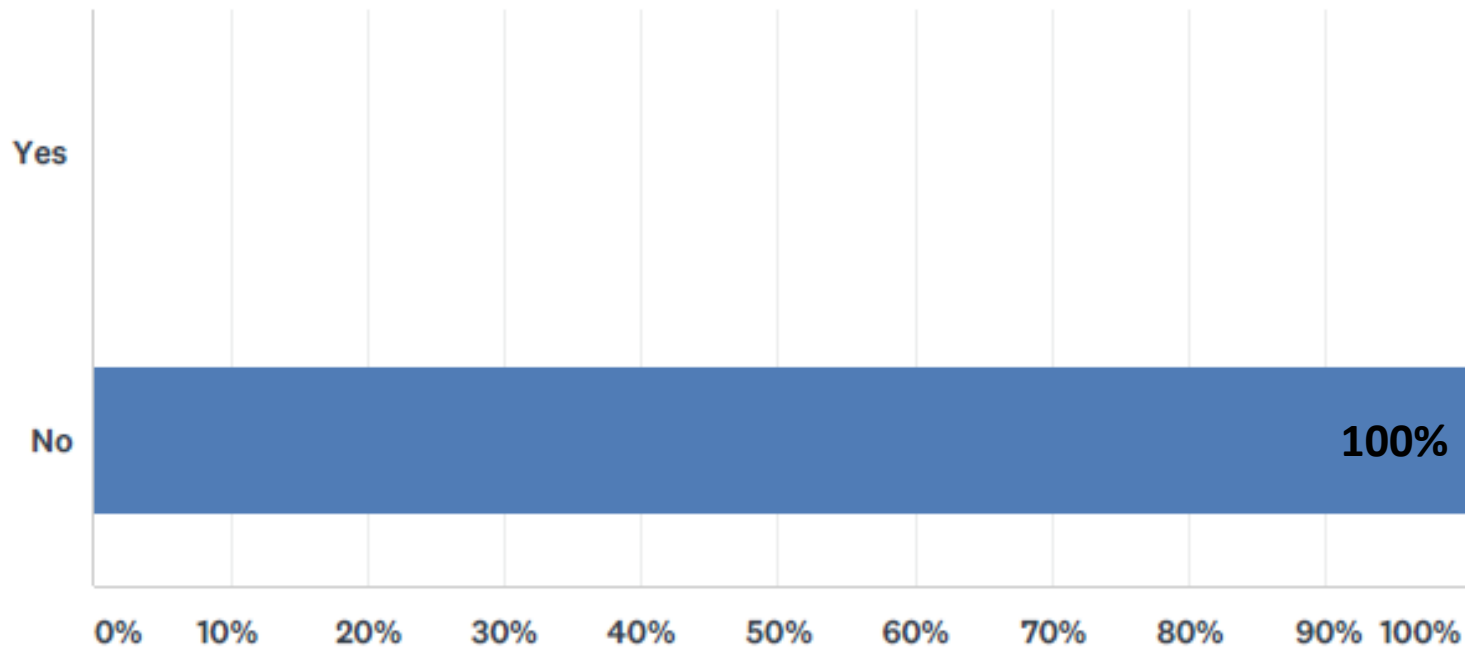


How often are you inspecting facilities that contain Zone electrical equipment?

- Ranged from 0, 3, to 100 times
- Not used in my jurisdiction
- Occasionally I see mixed equipment (*Most are Divisions*)
- Significant amount of the equipment is dual rated (*We do few projects that use zone classification, but see significant amount of zone rated equipment installed in Division classified projects*)
- I have not had an inspection with a zone type of design ever in 24 years of inspection

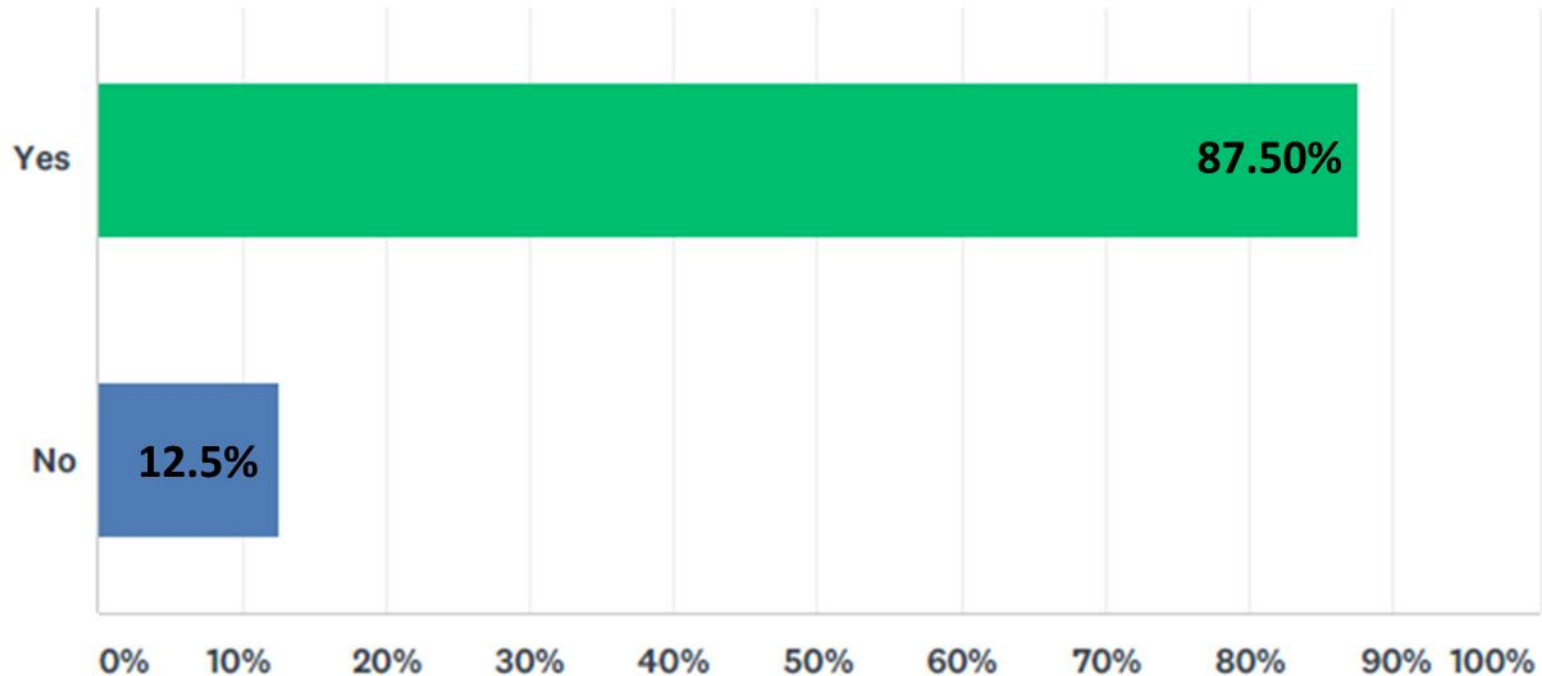


Are all the Hazardous (*Classified*) Locations within such facilities classified using only the Zone system?



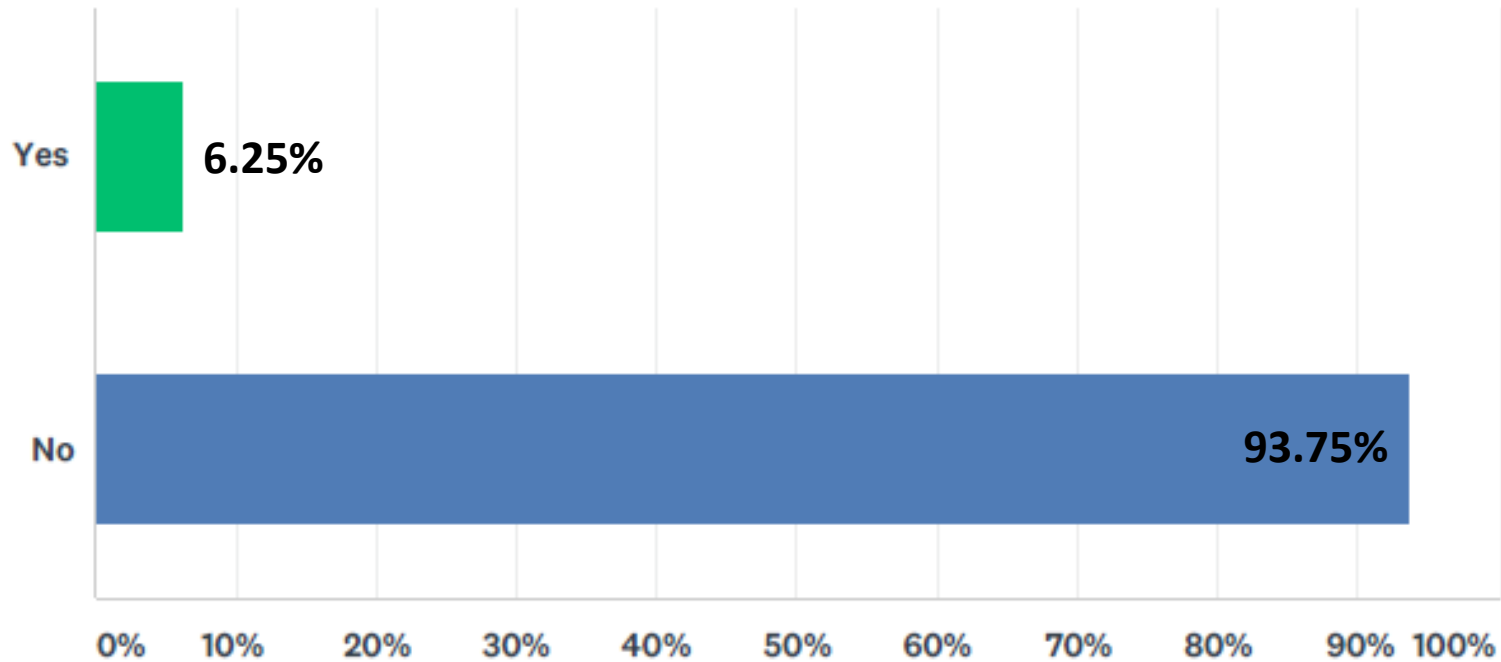


Are all the Hazardous (*Classified*) Locations within such facilities classified using only the Division system?



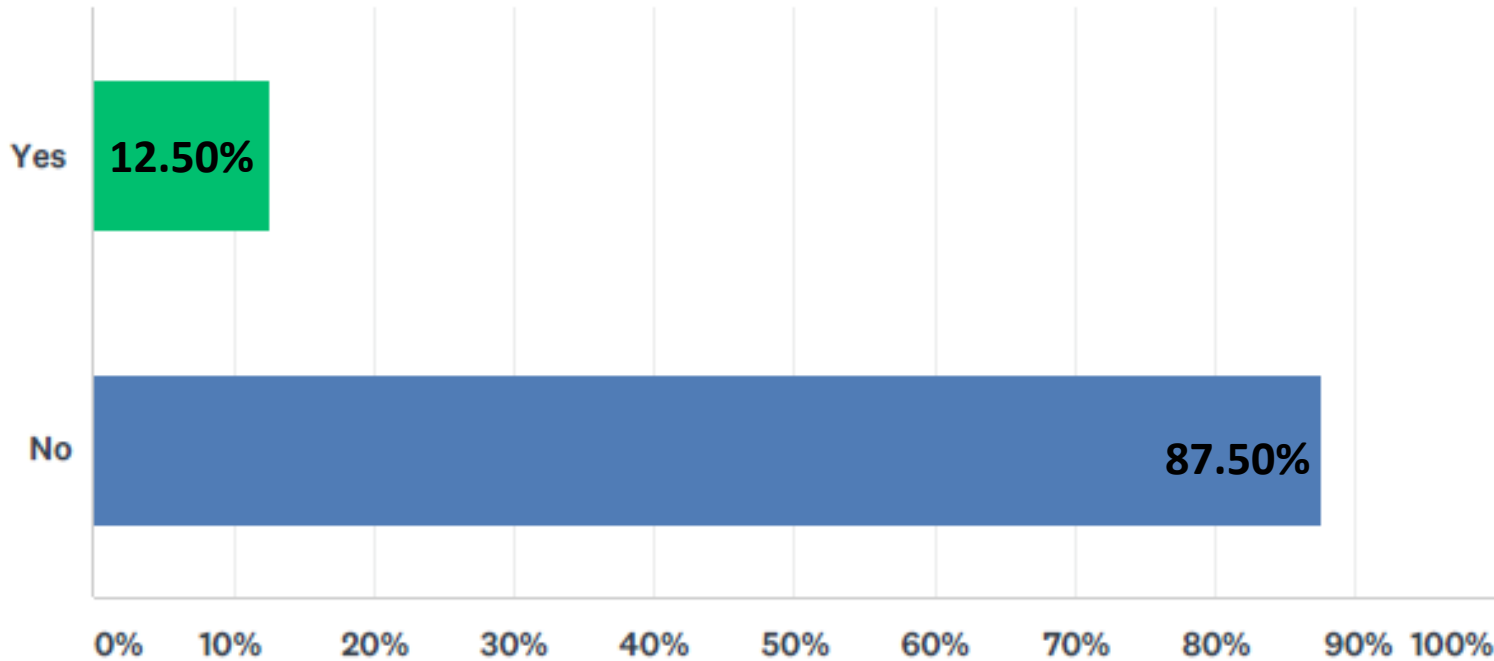


Are all the Hazardous (*Classified*) Locations within such facilities classified using a mix of Zone and Division systems?



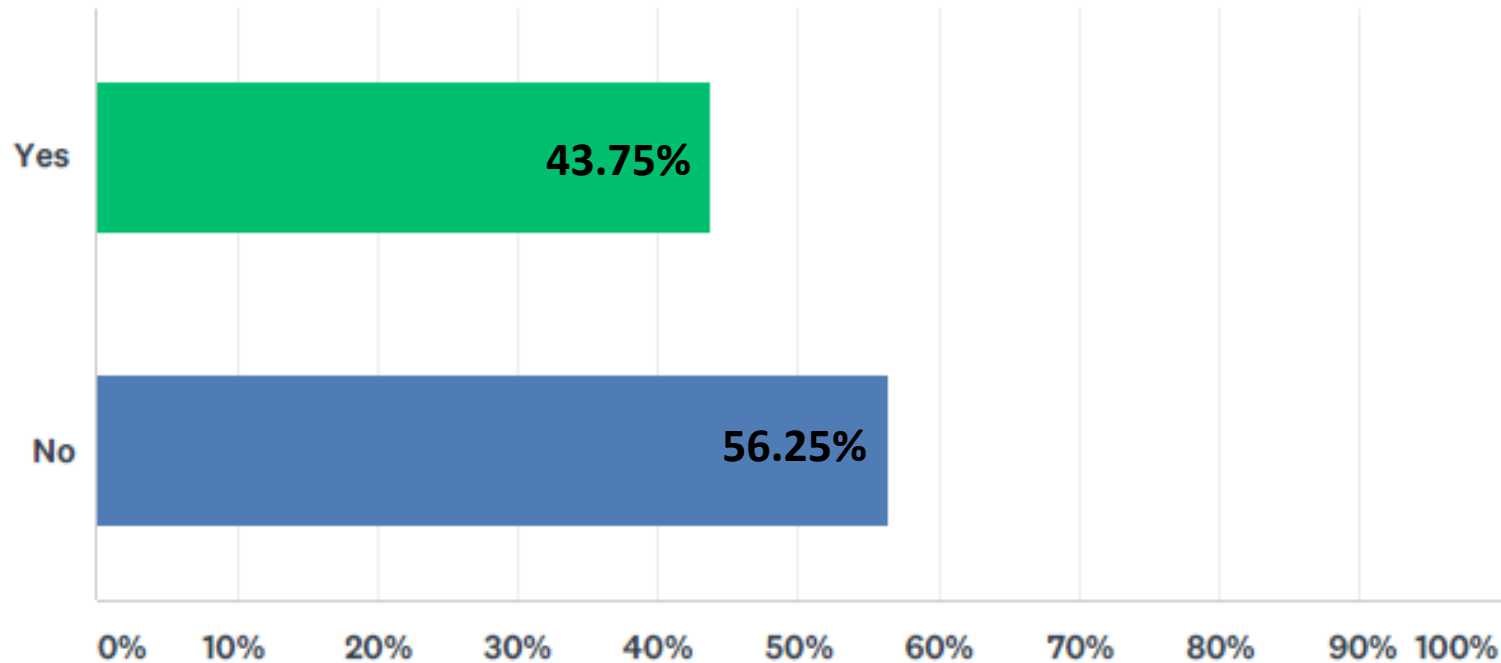


Is the Zone electrical equipment installed in Zone classified areas?





Is the Zone electrical equipment installed in Division classified areas?





What installation *Code* standards and their editions are being used in Zone classified area?

- Zones not being used
- None
- Not used in my locality
- Not inspecting Zone classified areas
- 2008 *NEC*
- 2014 *NEC*
- 2017 *NEC*
- *NFPA 497- 2017*
- *NFPA 499- 2017*
- Various *NFPA* Standards
- California Electric Code





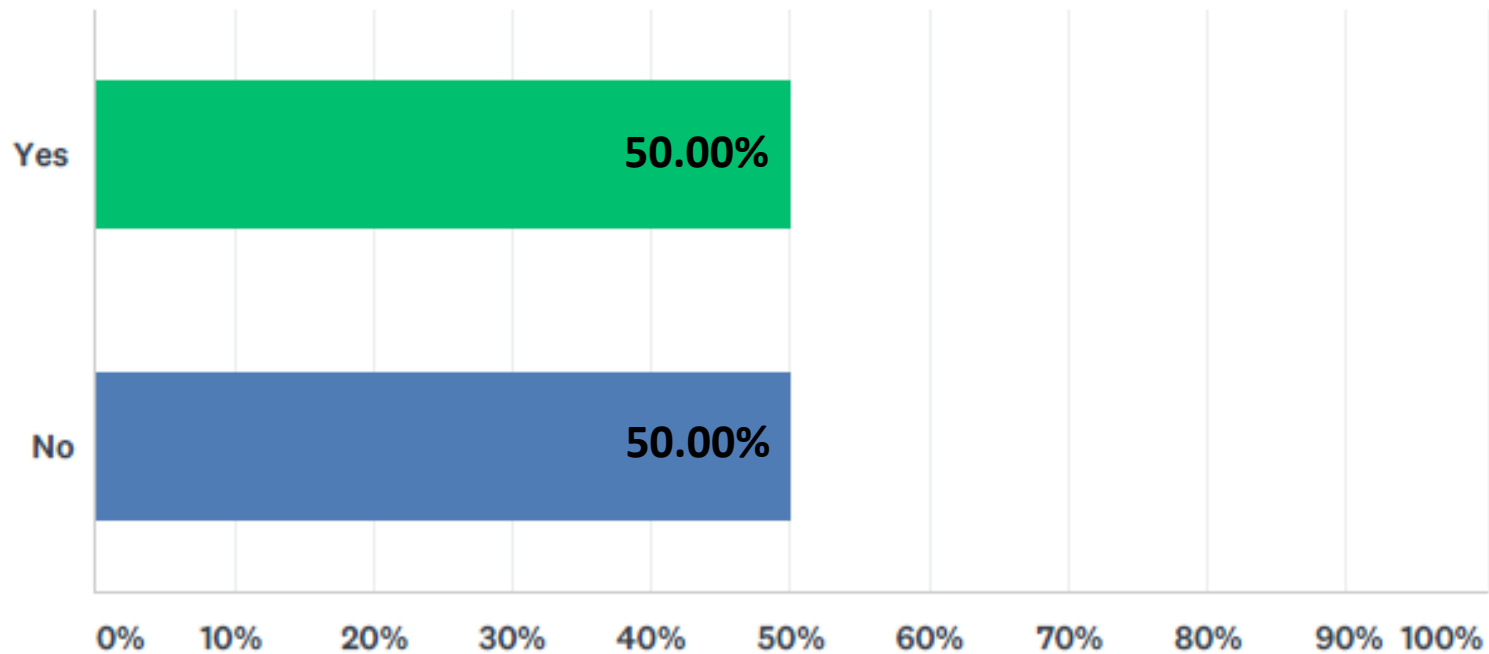
What installation *Code* standards and their editions are being used in Division classified area?

- 2008 *NEC*
- 2011 *NEC*
- 2014 *NEC*
- 2017 *NEC*
- 2012 IBC Codes
- 2015 ICC Codes
- *NFPA 497- 2017*
- *NFPA 499- 2017*
- Various *NFPA* Standards
- API RP500 2012
- California Electric Code





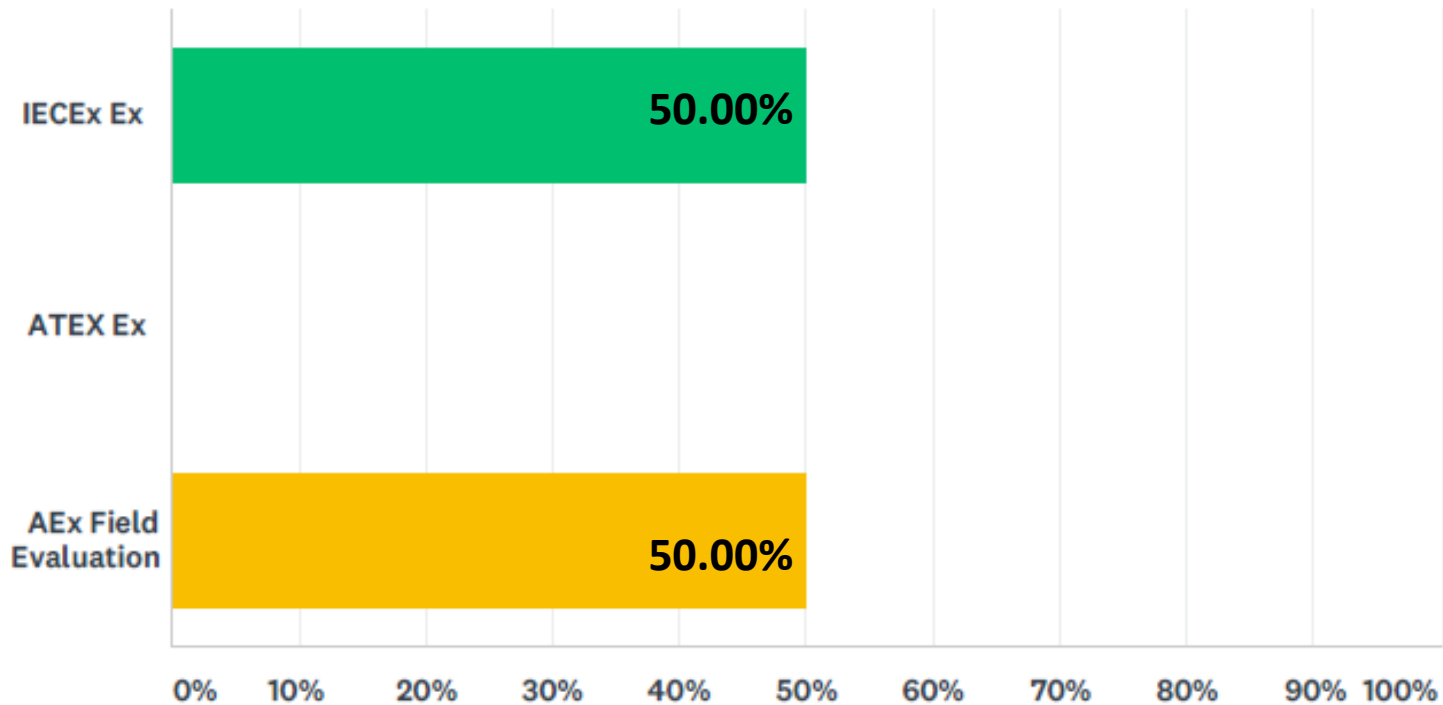
Does all Zone electrical equipment have 3rd Party AEx Zone certification by an OSHA recognized HazLoc NRTL?



Note: National Recognized Testing Laboratory (NRTL)



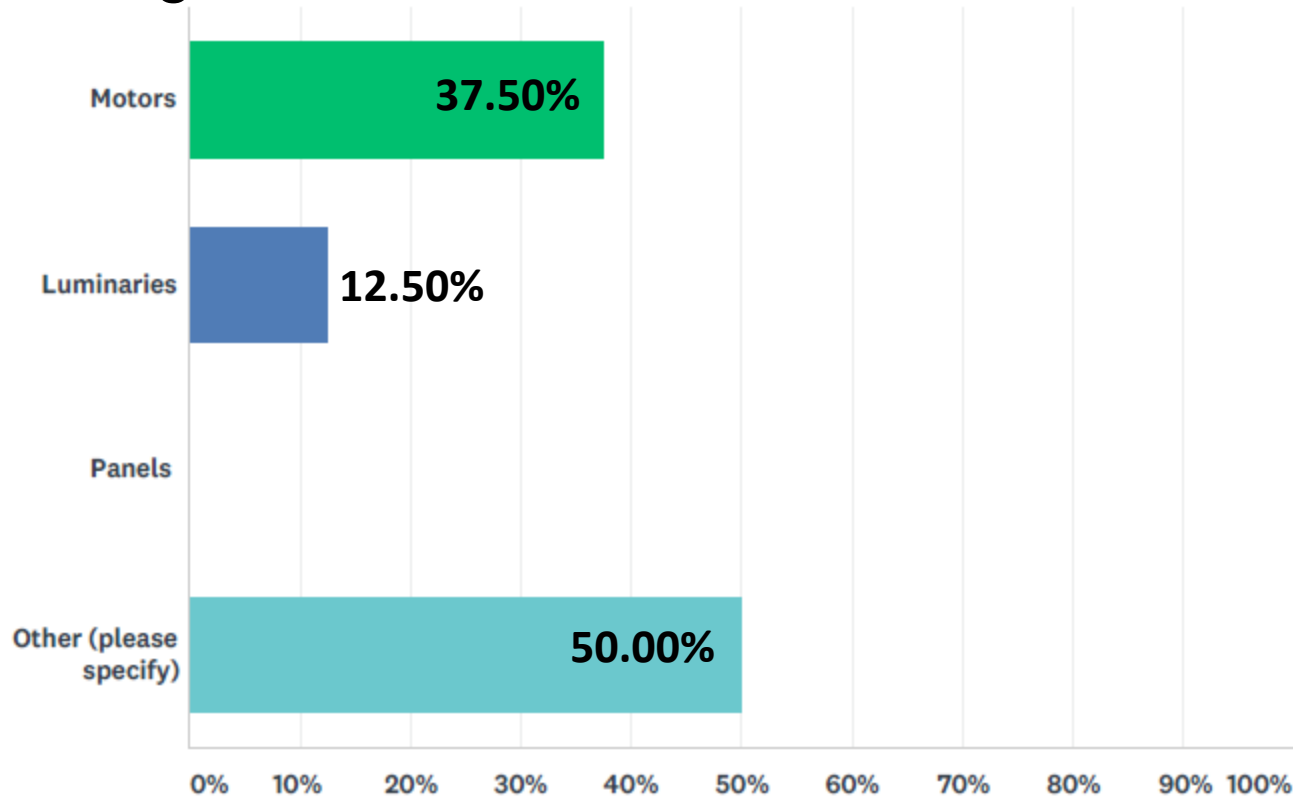
If “No” to last slide, what is the non-NRTL electrical equipment being accepted based upon ?



Note: National Recognized Testing Laboratory (NRTL)



If “No” to last slide, what type of Zone electrical equipment is being installed that is not NRTL AEx Zone certified?



Note: National Recognized Testing Laboratory (NRTL)



Conclusion

- Electrical Inspectors are not seeing Zone installations within their jurisdictions
- Many are only see Division installations
- 1 of the 16 inspectors who responded was familiar with the term IECEX
- Also remember that the metric system is included in the *NEC* but the majority of users in the US are familiar with inches and feet



Conclusion

- Hazardous (*Classified*) Locations work is a specialized field
- Installers and inspectors that spend a lot of time with these installations are very comfortable with these requirements
- Installers and inspectors that do not see very many installations are not very comfortable with the requirements



Conclusion- Inspector Comment

- I have done several inspections at large fuel dispensing locations, aircraft hangers, and other areas requiring classification, and have seen numerous violations, some plain scary.
- On the other hand, Hazardous (*Classified*) Locations work at places like Lockheed Martin, Exxon, Bechtel, and various government facilities is not just *Code* compliant but very good looking work.



Thank You

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