

Trench and Excavation Hazards: Insight on Newly Acquired Data and Managing the Risks



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Topics

Department of Labor Directive

Underground Construction Safety Overview

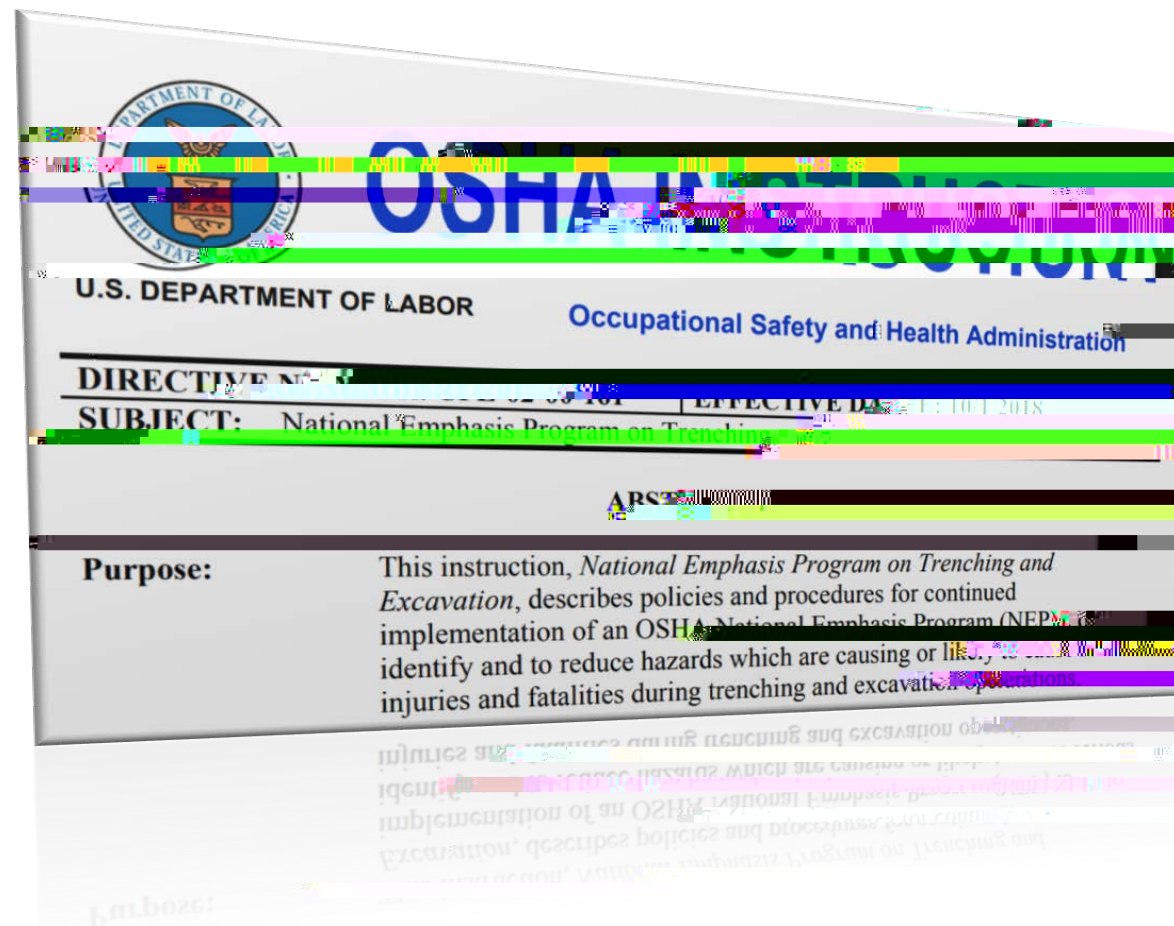
The Competent Person

Required Training & Compliant Solutions

Discoveries from CPWR Trench Survey



Department of Labor Directive



- OSHA is targeting workplaces of potential trench and excavation hazards for not only site inspections, but also for safety training outreach
- OSHA is working with industry associations and public utilities to create a public/private effort to impact worker safety
- OSHA will be updating their information system (OIS) to track abated trench and excavation hazards



Underground Construction Safety Overview

- Cave-Ins Are Preventable
- Injuries/Fatalities Occur Due To Lack Of Knowledge
- Injuries/Fatalities Occur Due To Willful Disregard
- Owners/Engineers/Supervisors/Foremen/Competent Persons Are Held Accountable
- The Competent Person



The Competent Person

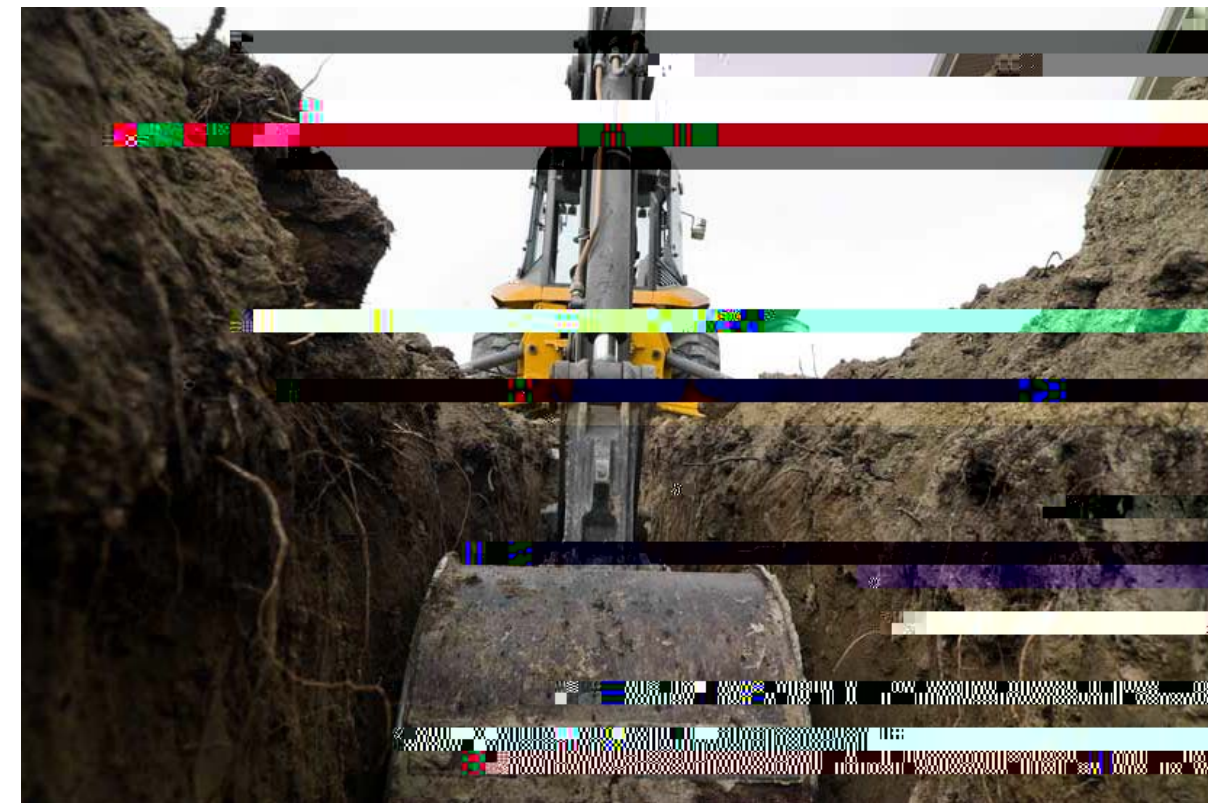
Definition 1926.650

The competent person is defined as one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous or dangerous to employees and who has the authorization to take prompt corrective measures to eliminate them.



Competent Person - Duties

- All employees shall be protected from cave-ins (1926.652)(a)
 - Protective system mandatory at 5' or more
 - Shallower if inspection yields potential for cave-in
- Protective system must have capacity to resist loads without failure
- Shield systems must not be subjected to loads exceeding design





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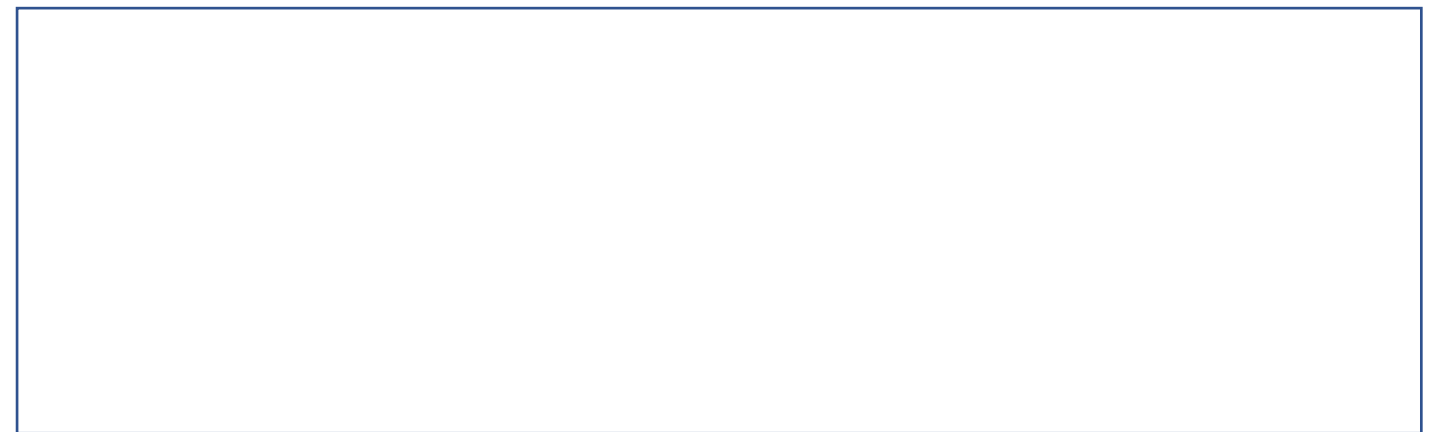
5 OSHA Compliant Solutions

Charts and Tables

1. Sloping and Benching
Appendix B
2. Timber Shoring
Appendix C
3. Aluminum Hydraulics
Appendix D

Registered Professional Engineer

4. Manufacturer's Tabulated Data
5. Site-Specific Engineering



Trench Survey

OSHA/NIOSH/CPWR r2p Working Group

- OSHA Construction Directorate
- NIOSH Office of Construction Safety and Health
- CPWR Research to Practice (r2p) Program

Ruth Rутtenberg & Associates

United Rentals

Speed Shore, Inc.

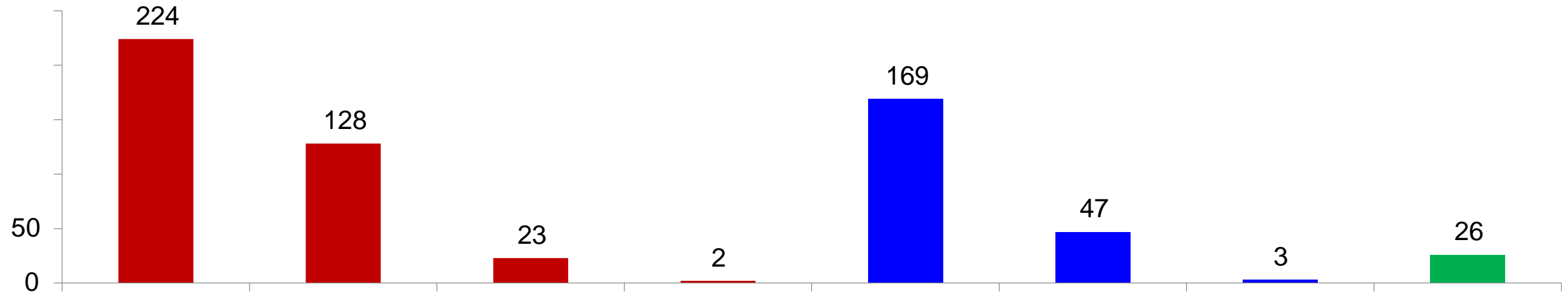


Trench Survey Responses

Sample	# Surveyed	# Responses	Response Rate
United Rentals- (Excavation Safety Training Classes)	461	411	89.2%
CPWR Outreach Database (convenience sample)	3,162	226	7.1%
Total	3,623	637	17.6%

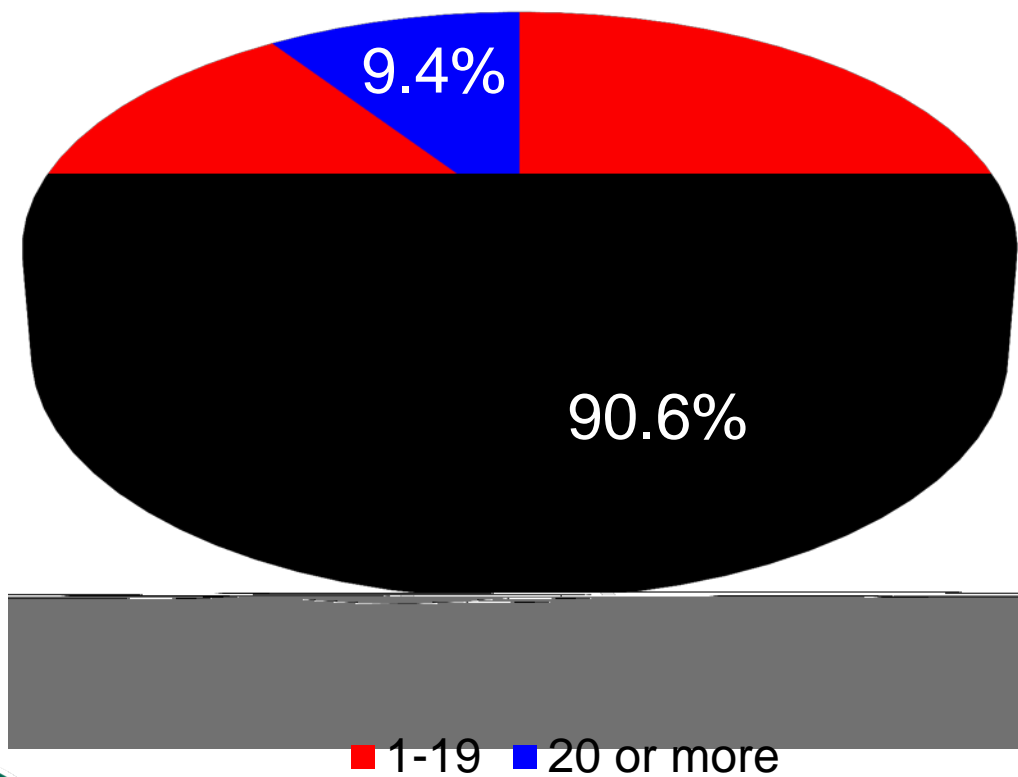


Participants by current position

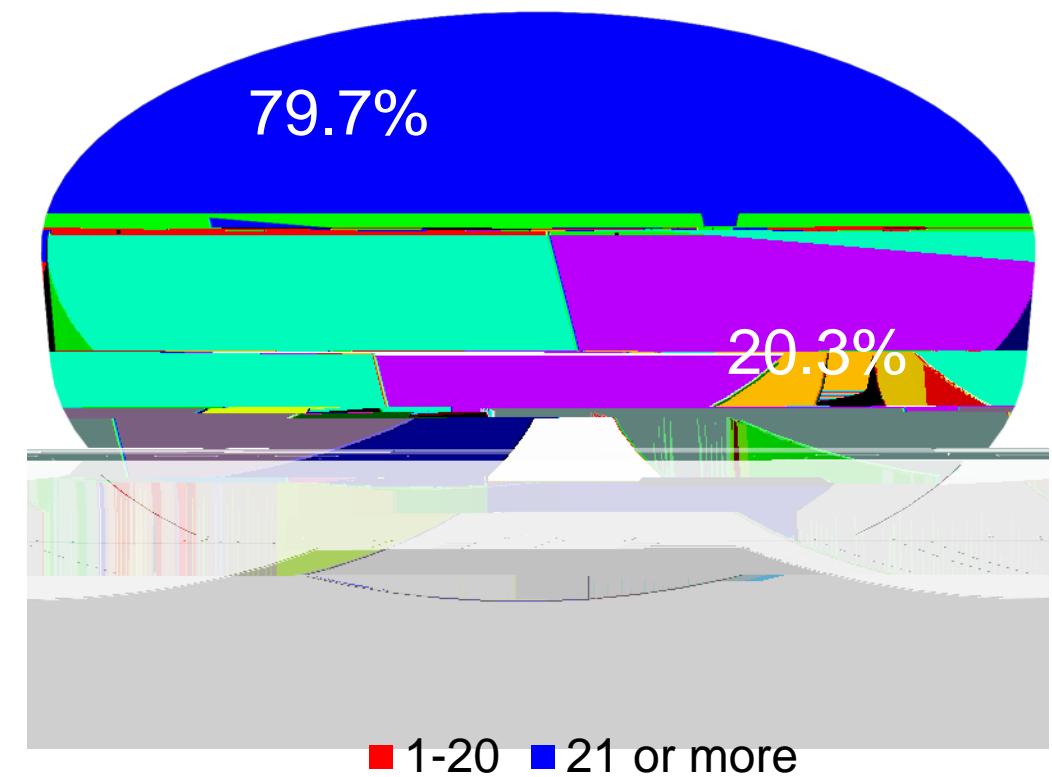


Construction establishments by employment size compared to the size of survey participants' employers

Construction Industry

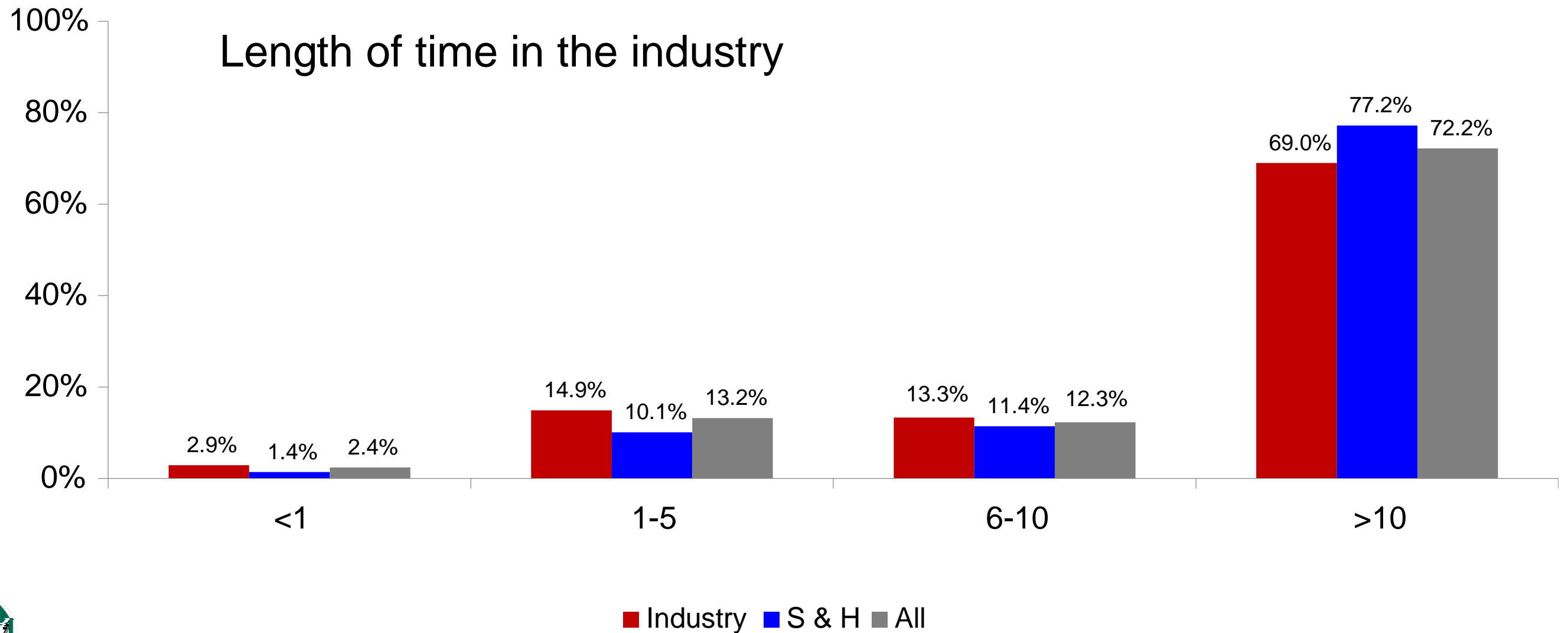


Survey Participants

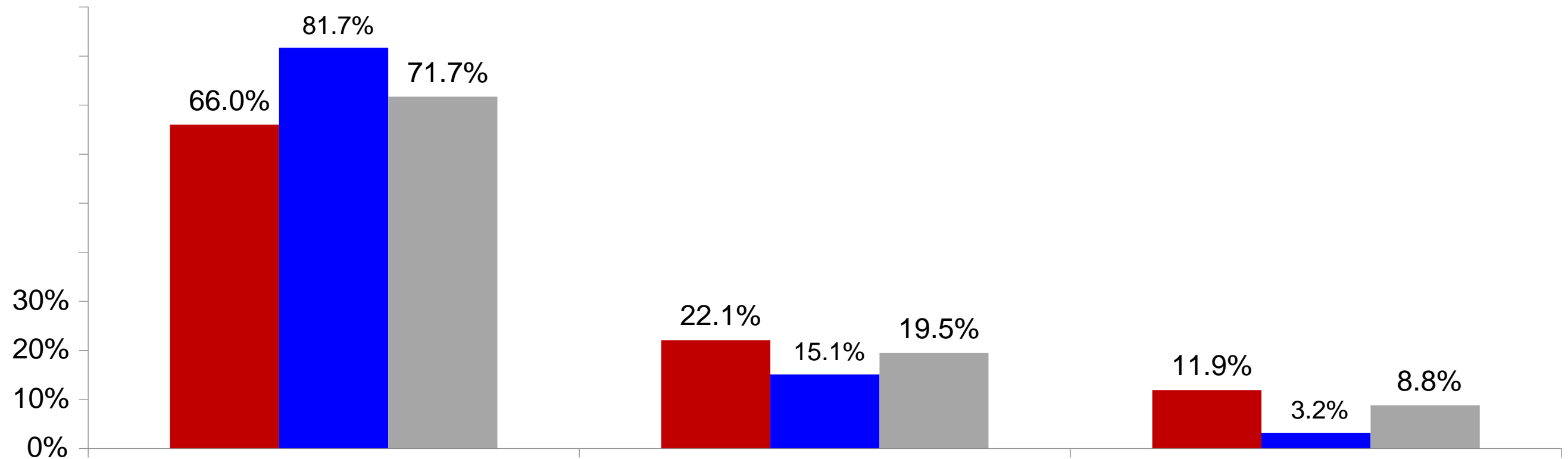


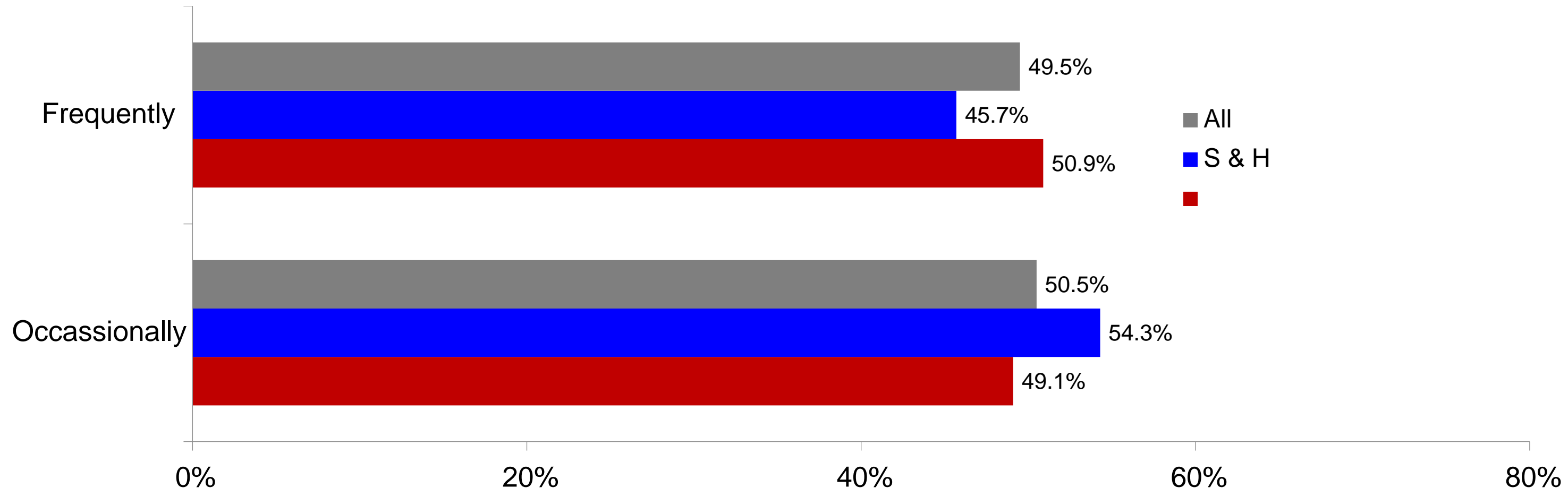
Source: CPWR Quarterly Data Report, Q3 2018, Figure 1

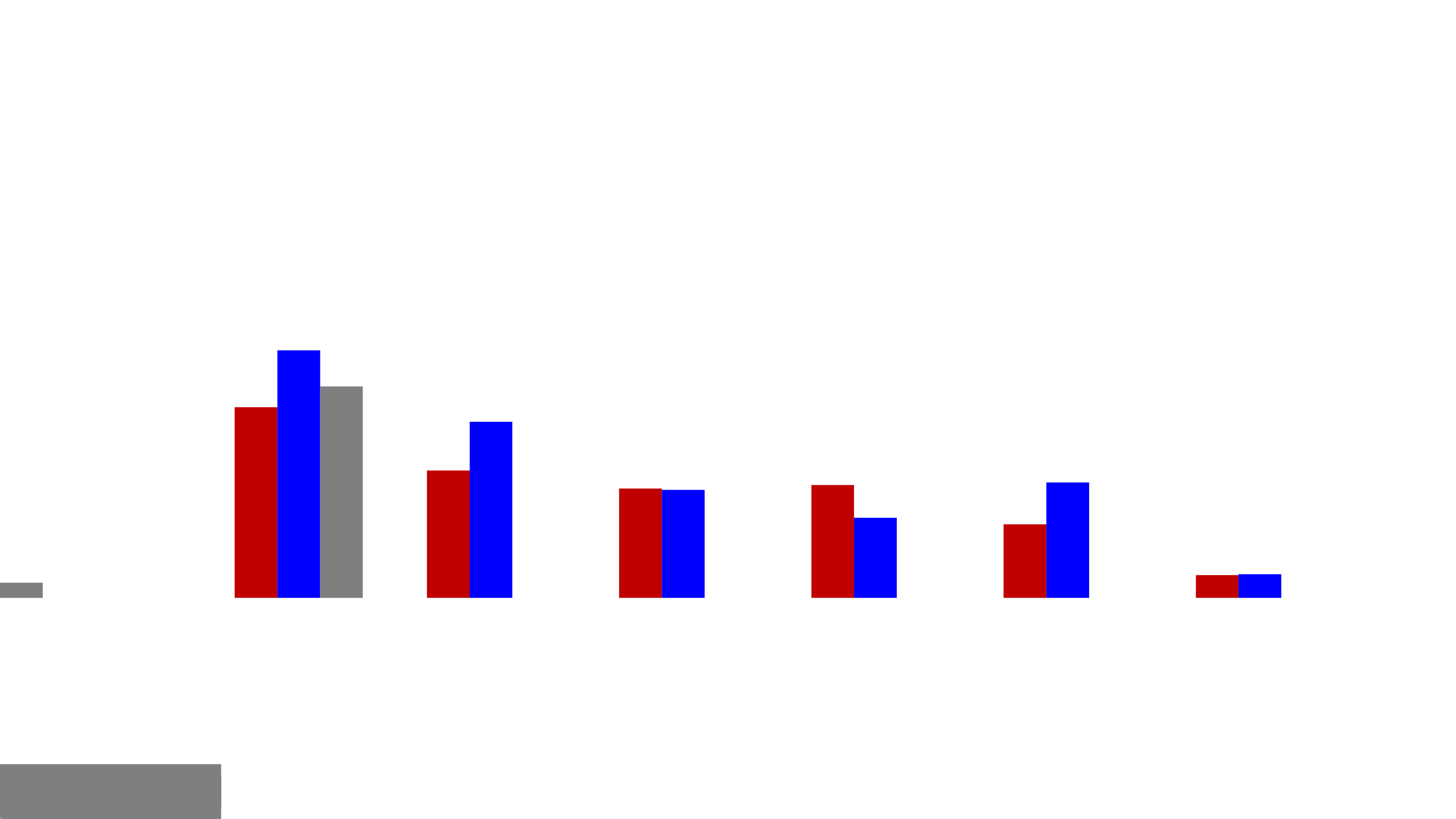
Participants' industry experience



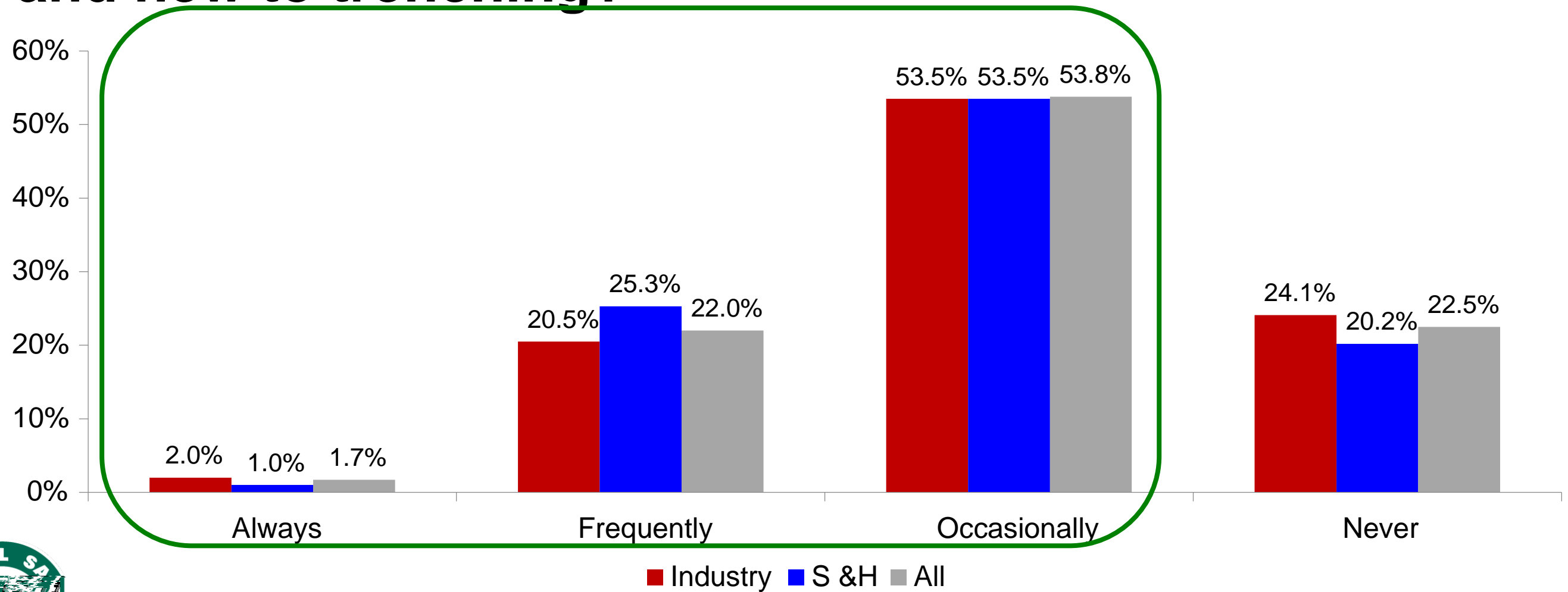
Do you qualify as a competent person for trench work?



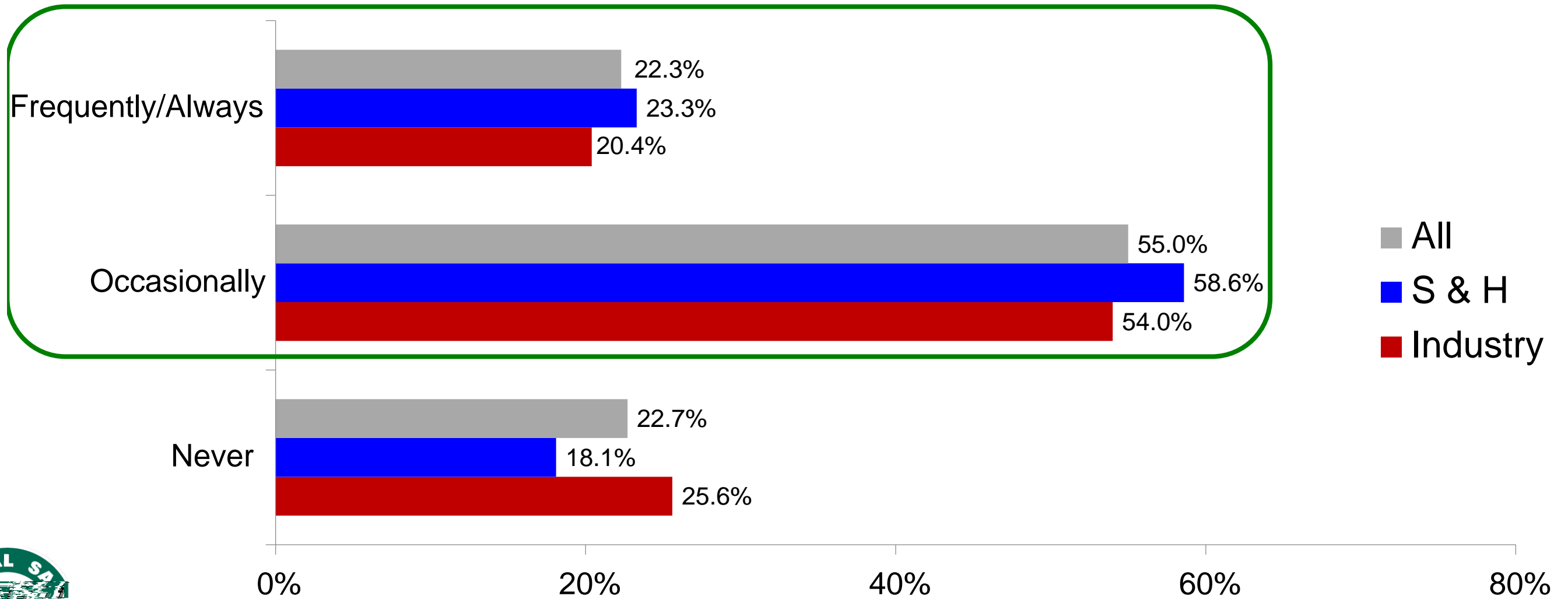




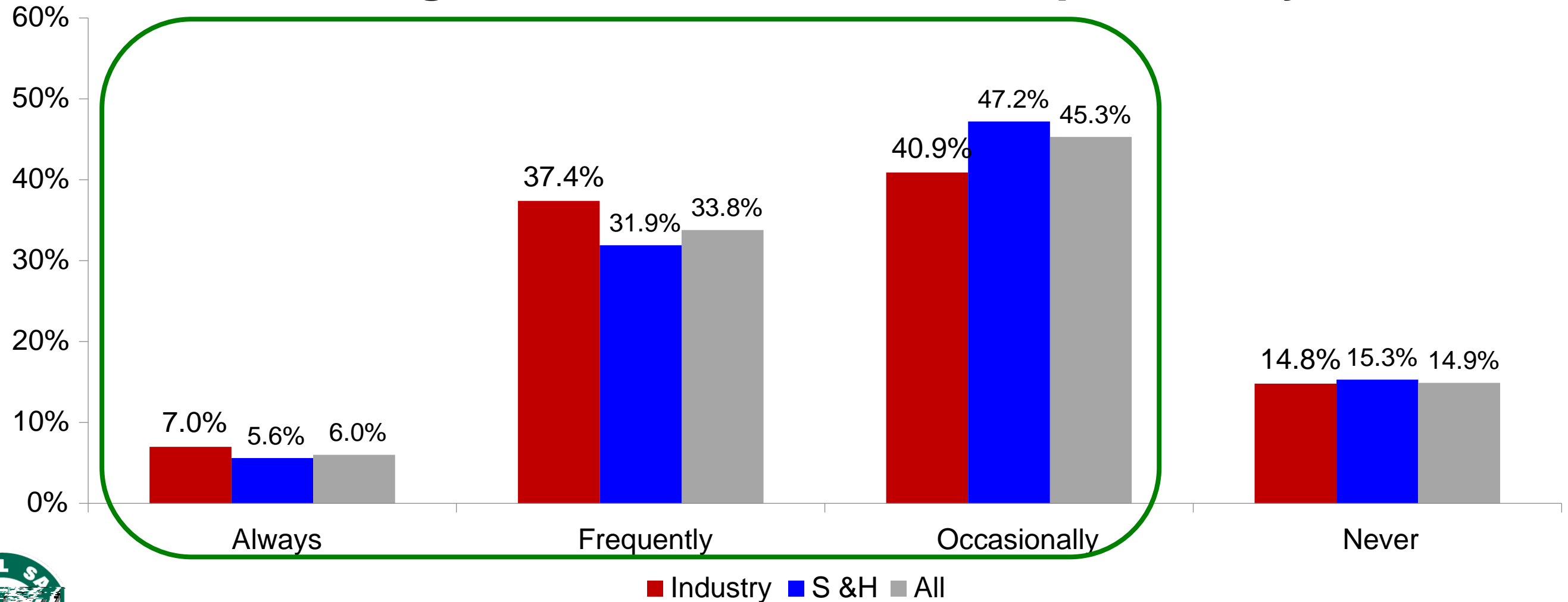
Do you see incidents where companies are inexperienced and new to trenching?



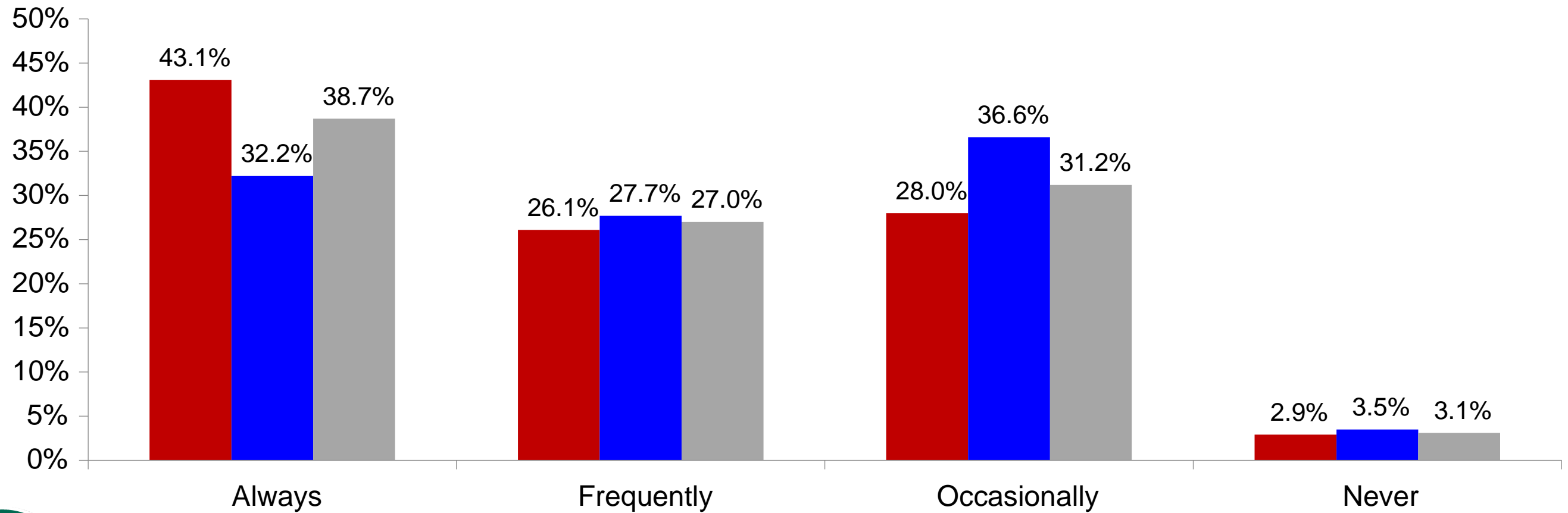
How often do they see no protection ...



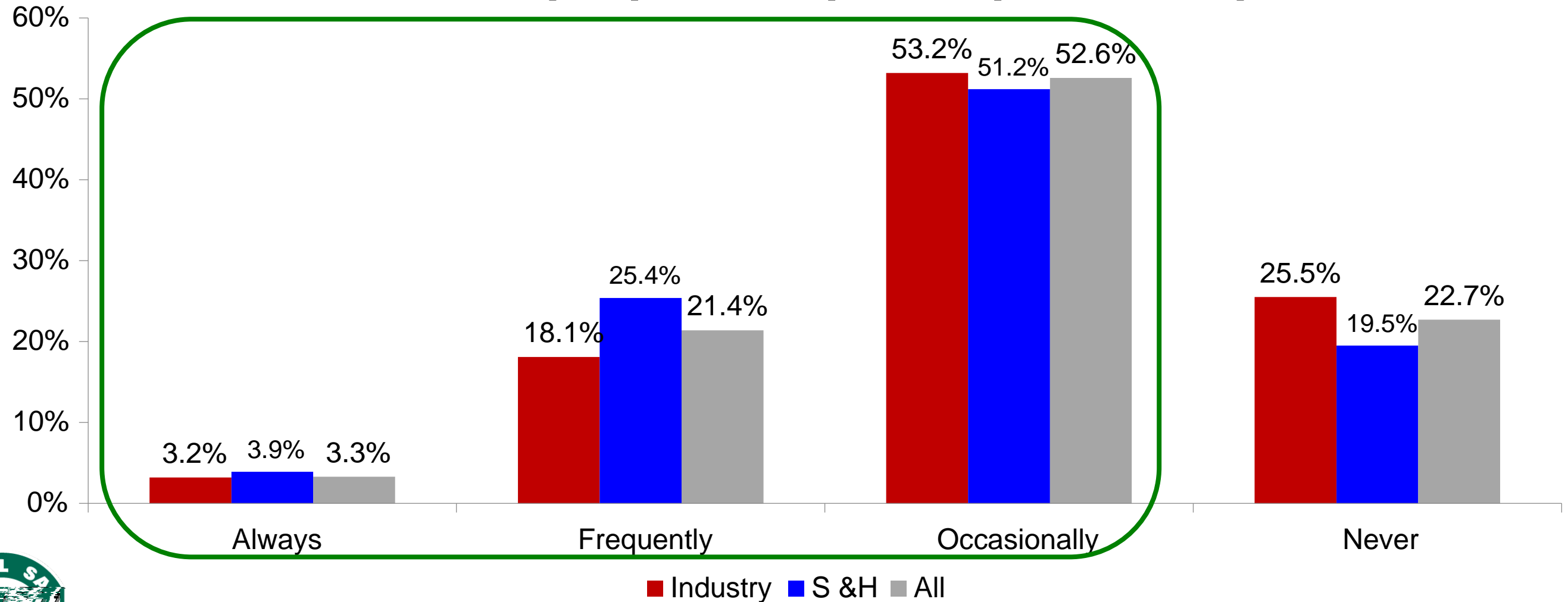
How often, when there was a collapse, did you see cross trenching or conduits or other signs that the soil had been previously disturbed?



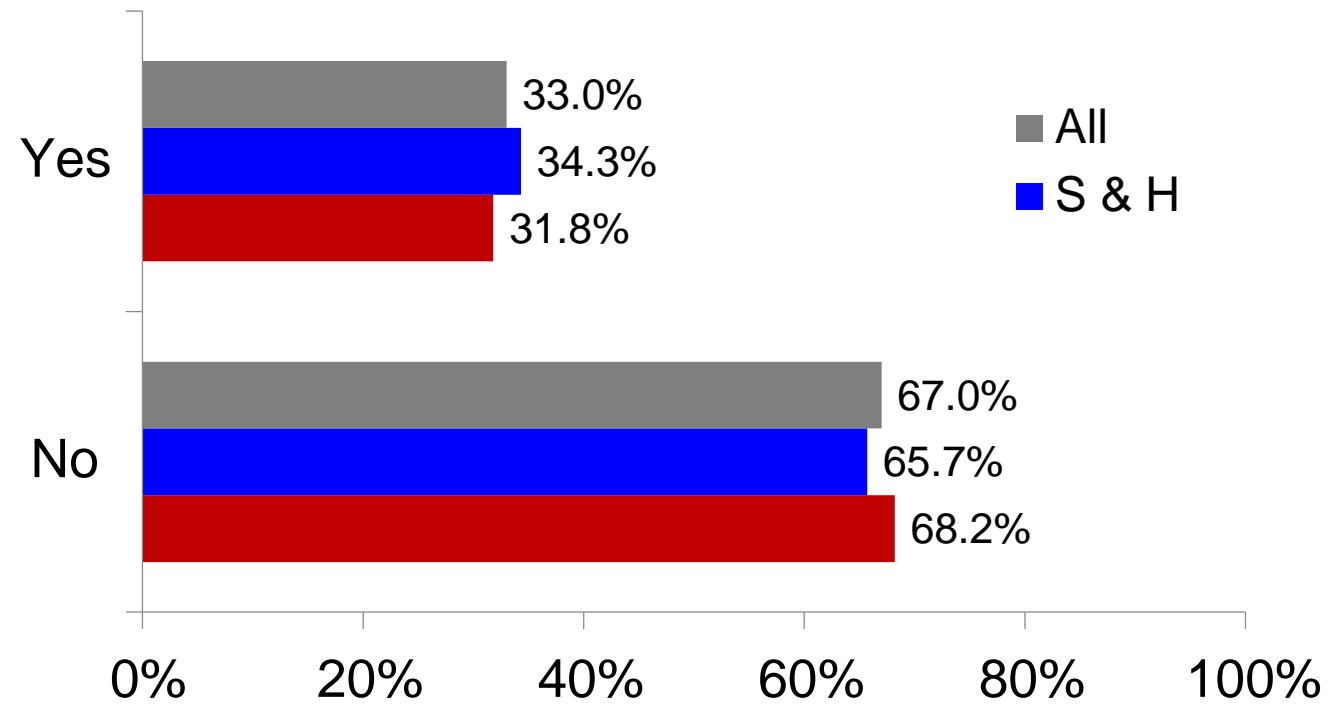
Is there a competent person trained in trenching on the job site?



Do you see incidents where new workers are exposed to trench/ excavation work without proper competent person supervision?



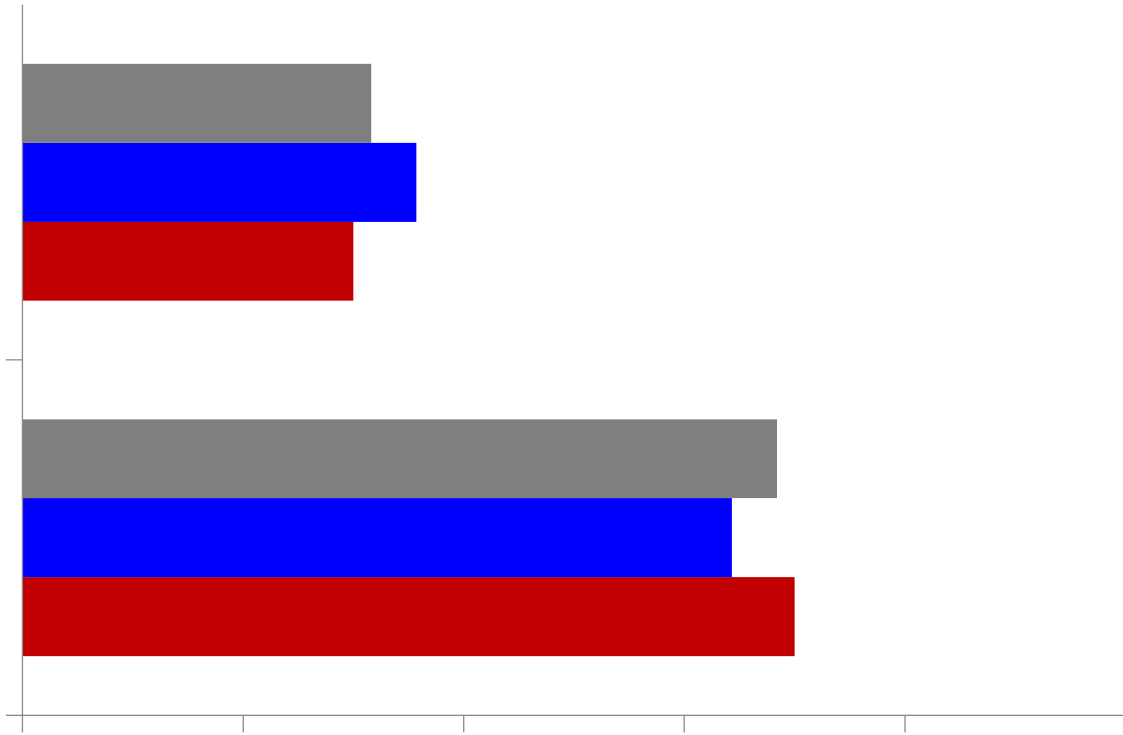
Have you ever been involved, witnessed, or inspected a trench collapse?



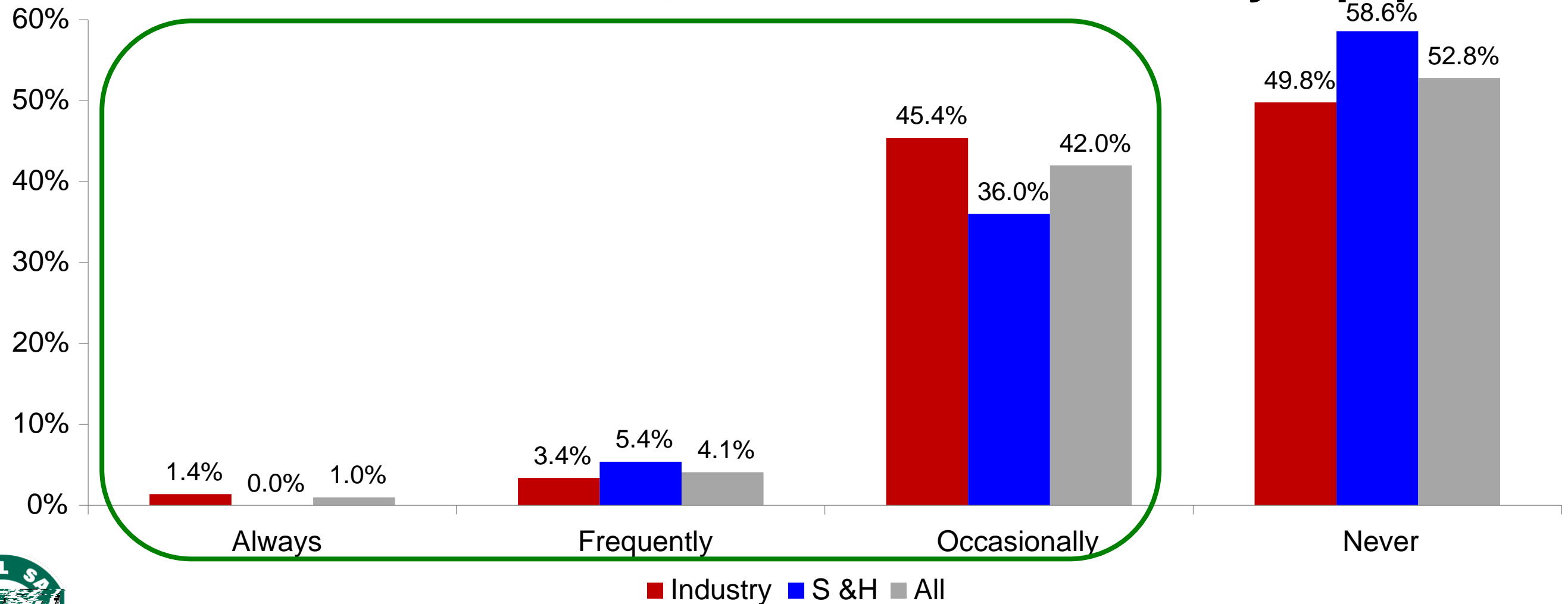


**How would you rate
your understanding of
the OSHA Standard?**

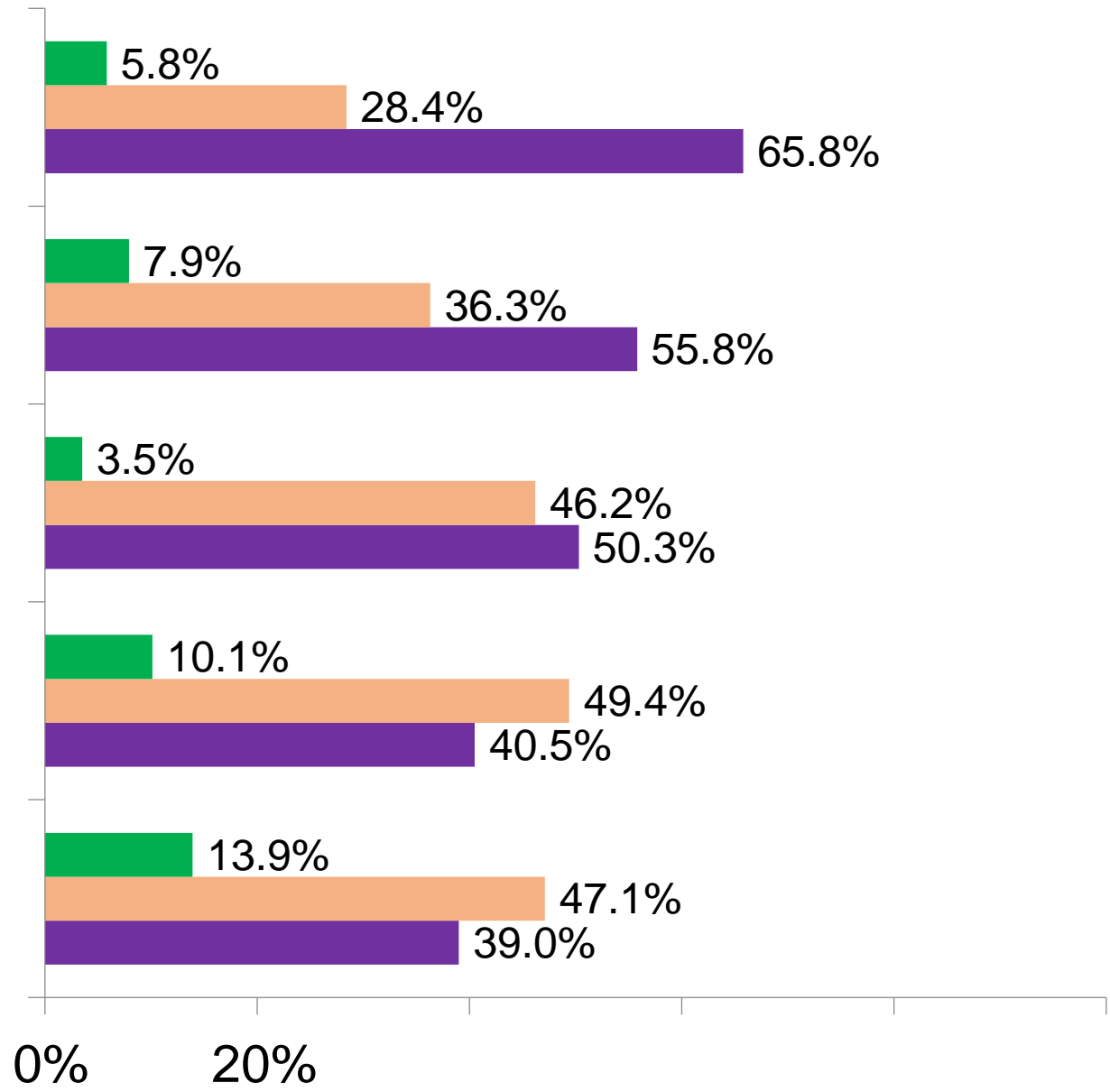




How often do you have trouble with proper installation, understanding manufacturers' tabulated data, and use of trench safety equipment?



What degree of impact would the following have on reducing trench fatalities and injuries and increasing compliance?



What we learned...

- 9 More pre-planning is needed
- 9 Trenches often are unprotected and there is often not a competent person on site
- 9 Incidents often involve contractors who are inexperienced or new to trench work
- 9 New workers often lack proper competent person supervision
- 9 There is a need to increase training and education on the standard and safe practices



What's been done so far by OSHA...

³/₄ Agency Priority Goal - Reduce Trenching and Excavation Hazards

³/₄ Trench Safety Initiative

%d Increase awareness of hazards and requirements

³/₄ Balanced Enforcement and Compliance Assistance

%d Revised National Emphasis Program for Trenching - effective October 2, 2018

%d Onsite Consultation Program

%d Area Office Outreach Programs

%d Develop and Update Training and Outreach Materials

%d OSHA/Industry Stakeholder Outreach Events (Trench Safety Stand-Down, etc.)





By NIOSH ...



