



Testimony to DOL

TESTIMONY OF THE
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
ON THE
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S
PUBLIC HEARING ON
SAFETY STANDARDS FOR EXCAVATIONS IN THE CONSTRUCTION INDUSTRY

29 CFR Part 1926
Docket No. S-204

Presented at the OSHA Informal Public Hearing
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Washington, D.C.

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The National Institute for Occupational Safety and Health (NIOSH) has reviewed the rule proposed by the Occupational Safety and Health Administration (OSHA) on safety standards for excavations in the construction industry, and we support OSHA's efforts in promulgating this rule amending the present part 1926 of Title 29 of the Code of Federal Regulations.

NIOSH is testifying in support of OSHA and resubmits the comments of June 15, 1987, to the docket with these additional comments.

NIOSH has made several estimates of the frequency of injury and death due to excavation cave-ins. In the NIOSH Health Hazard Alert of July 1985, based on Bureau of Labor Statistics (BLS) data from 1976 through 1981, NIOSH estimated a yearly average of 1,000 injuries, 140 permanently disabling injuries, and 75 fatalities. A more recent NIOSH estimate based on BLS data for the years 1980 through 1983, indicates a yearly average of 1,559 injuries, 58 permanently disabling injuries, and 42 fatalities. The BLS statistics on which these estimates are based are affected by underreporting and the difficulty in identifying injuries and deaths as specifically due to excavation cave-ins. NIOSH would characterize these estimates as conservative and the actual number of injuries and deaths may greatly exceed these estimates.

To emphasize this potential underestimation of deaths, a carefully conducted survey of death certificates from the State of Texas for the years 1976 through 1985 by L. Suarez et al., reported in the Mortality and Morbidity Weekly Report (MMWR), Volume 35, No. 19, pp. 313-314, May 16, 1986, indicated 35 fatalities in Texas for the 5-year period 1976-1980, and 58 fatalities for the five-year period 1981-1985. The 1981-1985 data yields an average yearly excavation fatality rate of 11.6 deaths per year for Texas alone.

Furthermore, NIOSH has recently completed reviewing 85 fatal excavation cave-ins reported to OSHA from 1974 through 1981. These cave-ins resulted in 92 fatalities. Fifty-five of these cave-ins occurred in vertical-walled excavations of over 5 feet in depth. Seventeen cases involved excavations with sloped side walls, but the average slope, as estimated by comparing top widths of the excavations, had only 60% of the horizontal displacement recommended by the National Bureau of Standards (NBS)/NIOSH document, "Development of Draft Construction Safety Standards for Excavations." These NBS/NIOSH recommendations are substantially similar to the proposed OSHA regulations for slope and soil type.*

*Reported in Professional Safety, Volume 33, Number 2, pp. 24-28, February 1988.

NIOSH has conducted Fatal Accident Circumstances and Epidemiology (FACE) studies of four incidents of excavation cave-ins resulting in four deaths. NIOSH believes that all of these deaths would have been prevented had the industry been following the proposed OSHA standard.

NIOSH has reviewed section 1926.652 of the proposal. We recommend that options 3 and 4, which, in essence, waive the specific requirements in the regulation and the professional judgment of a "qualified person" to determine design parameters, require that in this particular section of the statute, the qualified person be a registered professional engineer.

NIOSH has considered that many of the small operators involved may not have access to a registered professional engineer, but these operators may avail themselves of options 1 or 2 in section 1926.652 which in the great majority of circumstances, will be substantially similar to the designs of a registered professional engineer.

My colleagues and I will be happy to respond to any questions that OSHA or other hearing participants may have.

Thank you.

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16. Abstract (Limit: 200 words) This testimony concerns the position of NIOSH on the proposed OSHA ruling concerning safety standards for excavations in the construction industry. NIOSH supports OSHA's efforts in promulgating this rule. Several estimates of the frequency of injury and death have been made by NIOSH as they relate to excavation cave ins. A yearly average of 1,559 injuries, 58 permanently disabling injuries, and 42 fatalities has been demonstrated. NIOSH has recently completed a review of 85 fatal excavation cave ins reported to OSHA from 1974 through 1981. These cave ins caused 92 fatalities. Fifty five of the cave ins occurred in vertical walled excavations of over 5 feet in depth. Seventeen involved excavations with sloped side walls but the average slope had only 60% of the horizontal displacement recommended by the National Bureau of Standards. In Fatal Accident Circumstances and Epidemiology studies of four incidents of excavation cave ins, NIOSH concluded that all deaths would have been prevented had the industry been following this proposed OSHA standard.			
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