

## **OSHA Regulations Applicable to Well Construction/Drilling in North Carolina**

The vast majority of employers in NC are covered under the general industry standard which includes basically all activities that are not involved in constructing something, or are working in the maritime or agriculture. Since well construction is considered to be a 'construction' activity under OSHA regulations, I will start with the construction standard and fill in with the general industry standard. All OSHA regulations are developed by NC DOL or federal DOL and are identified by their paragraph and subparagraph(s). The general industry standard is 29 CFR 1910 while the construction industry standard is 29 CFR 1926.

### **Personal protective equipment (PPE):**

General criteria for PPE (29 CFR 1926.95(a)) states:

"Protective equipment, including personal protective equipment for eyes, face, head and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact."

\*Note: The General Industry standard (29 CFR 1910.132) has almost identical wording for this general criteria paragraph.

### **Occupational foot protection**

1926.96 states:

"Safety toe footwear for employees shall meet the requirements and specifications in American National Standard for Men's Safety-Toe Footwear, Z41.1-1967."

1910.133 states essentially the same thing but references a newer version of Z41, which is Z41-1991.

In 2005 or 2006, the American Society for Testing and Materials, ASTM, took over the writing of the occupational foot protection industry consensus standard under ASTM F2413-05. Most boot labels will not reflect this ASTM standard, however if a person's boot label references the ANSI standard, it still meets the protection requirements of ASTM.

## **OSHA Regulations Applicable to Well Construction/Drilling in North Carolina**

### **Head Protection**

1926.100 states:

- (a) "Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets.
- (b) Helmets for the protection of employees against impact and penetration of falling and flying objects shall meet the specifications contained in American National Standards Institute, Z87.1-1969, Safety Requirements for Industrial Head Protection.
- (c) Helmets for the protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971."

The ANSI standard is periodically updated. The latest version of the head protection consensus standard is 2003, ANSI Z89.1-2003. This latest ANSI standard has two types of helmets. Type I is designed for use where employees need protection from falling objects whereas Type II is designed for side impact protection. (Note: This year, DWQ's drillers changed their hard hats from Type I to Type II so that they will have the side impact protection I think they need while working around the drill rigs. This type helmet provides better protection for each driller's head from the side impact while pipe segments or other items are suspended on the booms.)

### **Respiratory protection**

1926.103 refers the reader to 29 CFR 191.134, General Industry Respiratory Protection standard.

1910.134 states:

- (a) Permissible practice (1) in the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, vapors, the primary objective shall be to prevent atmospheric contamination. ...
- (2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. ...

## OSHA Regulations Applicable to Well Construction/Drilling in North Carolina

### **Hearing Protection**

1926.101 states:

- (a) Wherever it is not feasible to reduce the noise levels or duration of exposures to those specified in Table D-2, Permissible Noise Exposures, in 1926.52, ear protective devices shall be provided and used.
- (b) Ear protective devices inserted in the ear shall be fitted or determined individually by competent persons.
- (c) Plain cotton is not an acceptable protective device.

1926.52 Table D-2

Table D-2 PERMISSIBLE EXPOSURE LIMITS	
Duration per day, hours	Sound level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

(Note: DWQ's drillers have been instructed that whenever they go inside the visible barrier, as demarked by cones and barrier tape, that they be wearing all necessary PPE, which includes hard hat, safety glasses, hearing protection, safety boots and appropriate hand protection for the expected task. This is the case for hearing protection even though the measured the sound at the operator's panel and the helper's station ranges between 91 - 97 dBA - dBA means decibels A weighted scale. The cone/barrier tape barrier is setup with the 90 dB sound level in mind.)

## **OSHA Regulations Applicable to Well Construction/Drilling in North Carolina**

### **Eye and Face Protection:**

1926.102 states:

(a) General.

(1) Employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.

(2) Eye and face protection equipment required by this Part shall meet the requirements specified in American National Standards Institute, Z87.1-1968, Practice for Occupational and Educational Eye and Face Protection.

(3) Employees whose vision requires the use of corrective lenses in spectacles, when required by this regulation to wear eye protection, shall be protected by goggles or spectacles of one of the following types: (i) Spectacles whose protective lenses provide optical correction; (ii) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles; (iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.

The standard identifies various types of eye protective devices with illustrations of each type and what type of task each type of device is matched with.

### **Safety Belts, lifelines and lanyards**

1926.104 specifies the pound limits for fall protective devices but does not talk about what minimum height fall protection is required.

### **Fall Protection**

1926.501 , Duty to have fall protection requires the following:

(b)(i) *Unprotected sides and edges*. Each employee on a walking/working surface (horizontal or vertical surface) with an unprotected side or edge which is 6 feet (1.8m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

1926.502(d) - (h) talks about the various types of fall protection systems

(d) Personal fall arrest systems

(e) Positioning device systems

(f) Warning line systems

(g) Controlled access zones

(h) Safety monitoring systems

The final ruling for PPE purchases was just passed this year. Under the current regulation, most all PPE is required to be paid by the employer. Exceptions to this rule are those pieces that are so personal that another person can not easily wear it. This basically refers to boots and prescription safety glasses. For those items, the employer can require the employee to provide. In the Division, we have adopted the attitude that the Division will provide all PPE without regard to use by multiple employees.