

**RE: Directive on  
Implementation of Sections 420 and 421 Training Requirements**

This Directive reaffirms the requirements of Chapter 4 of the Pennsylvania Bituminous Coal Mine Safety Act as it relates to Sections 420 and 421 - Training and General Requirements and Equipment Specific Training. These two sections of the Act are included below:

**Section 420 –Training and General Requirements**

(a) All training course instructors and all training plans required by this section and Section 421 shall be approved by the department. Operator training and qualification shall meet the requirements of this section.

(b) Training shall be conducted in the basics of the operation of a diesel engine, Federal and State regulations governing their use, company rules for safe operation, specific features of each piece of equipment and the ability to recognize problems and shall be provided to each equipment operator and the mine health and safety committee if one exists. This training shall be designed to bring every operator to a level of good understanding of diesel equipment operation. Each operator will be qualified by attending a minimum eight-hour course, including classroom training on diesel fundamentals and equipment-specific hands-on training on the job.

(c) Upon successful completion of both training sessions, the operator shall be issued a Certificate of Qualification that qualifies him or her to operate a specific type of diesel-powered equipment. An operator may be qualified to operate more than one type of equipment by completing additional equipment-specific training covering differences specific to each additional type of equipment.

(d) Refresher training, separate from that required by MSHA regulations at 30 CFR Pt. 48 (relating to the training and retraining of miners), shall be required annually.

(e) The minimum eight-hour training required by subsection (b) shall include instruction in the following classroom subjects:

(1) Engine fundamentals, which shall include an introduction to the function of a diesel engine and recognition of all major components and their functions.

(2) Diesel regulations, which shall include an introduction to Federal and State regulations governing the use of diesel equipment.

(3) Diesel emissions, which shall include an introduction to diesel emissions and their adverse health effects.

(4) Factors that affect diesel emissions, which shall include a detailed presentation of engine faults and diesel fuel quality and their effect on emissions and the preventive actions that can be taken to minimize emissions levels.

(5) Emissions control devices, which shall include a detailed presentation of the different emissions control devices employed to reduce emissions and details about actions the operator must take to keep the devices in working order.

(6) Diagnostic techniques, which shall include a presentation of techniques that can be employed by the operator to assure the equipment is in safe operating condition and instruction about how to recognize and diagnose certain engine faults that may cause increases in emissions.

(7) The preoperational inspection, which shall include a presentation of the purpose, benefits and requirements of the preoperational inspection.

(8) Ventilation, which shall include an introduction to special ventilation requirements for areas where diesel-powered equipment will operate.

(9) Fire suppression system, which shall include an introduction to the fire suppression system and its function and when and how to activate the fire suppression manually.

(10) Operating rules, which shall include a detailed presentation of the driving rules, safe driving speeds, traffic control devices and equipment limitations.

(11) Emergency procedures, which shall include discussion of emergency situations, such as fire, diesel fuel spills, component failure, loss of ventilation air and emergency escape procedures and discussion of the potential use of the diesel-powered vehicle as an emergency escape vehicle in case of a mine emergency situation.

(12) Recordkeeping and reporting procedures, which shall include a presentation on required recordkeeping and reporting procedures for problems or unsafe conditions, high emissions level and preoperational inspections made by the equipment operator.

(f) A new Certificate of Qualification shall be issued annually after the equipment operator has received the annual refresher training.

## **Section 421. Equipment-specific training**

Equipment-specific hands-on orientation training shall be given in an area of the mine where the equipment will be operated. This orientation shall be specific to the type and make of the diesel machine and shall be presented in small groups. The following subjects shall be included in the training:

- (1) Equipment layout, which shall include familiarization with the layout of the equipment, the operator's compartments and the controls.
- (2) Pre-operation inspection, which shall include familiarization with the pre-operation inspection procedure and review of specific details of the inspection and location of the components to be inspected.
- (3) Equipment limitations, which shall include instruction relating to equipment performance, speeds, capacities and blind areas.
- (4) Operating areas, which shall include instruction relating to areas in which the equipment may be operated.
- (5) Operation, which shall include familiarization with the controls, gauges and warning devices and safe operating limits of all indicating gauges.
- (6) Refueling procedure, which shall include familiarization with fuel handling, permissible refueling areas, spill prevention, cleanup and potential hazards from diesel fuel.
- (7) Emergency devices, which shall include instruction relating to the location and use of the fire extinguisher and fire suppression devices.
- (8) Driving practice, which shall include supervised operation of the equipment.

### **Explanation:**

Section 420(b) requires each operator to complete a minimum of 8 hours of training to be qualified. This training includes classroom training on diesel fundamentals and equipment specific hands-on training on the job.

Section 421 requires each operator to complete equipment specific hands-on orientation training in an area of the mine where the equipment will be operated. This orientation shall be specific to the type and make of diesel machine and shall be presented in small groups.

The Act requires a portion of the diesel training to be completed underground in an area of the mine where the equipment will be operated. Additional training and orientation to the equipment can be conducted outside or in a shop area where conditions and lighting are very good. In order to receive a Certificate of Qualification, each operator must complete the equipment specific training as required in Section 421 1-8 in an area of the mine where the equipment will be operated. This training shall be conducted in small groups.