



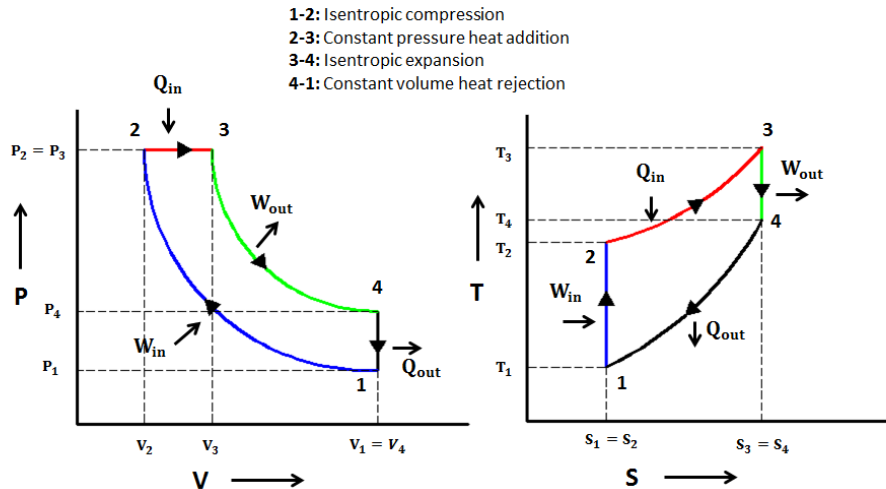
MSHA/NIOSH Diesel Partnership

Diesel Technology Workshop

Current Barriers to Deployment of Technologies Panel

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Pennsylvania Bureau of Mine Safety



PA Diesel Program Overview

Pennsylvania Bureau of Mine Safety Diesel Program Overview

The main components of PA Diesel Safety Program:

- The Law, Act 55, latest edition 2008, Chapter 4
- The equipment approval process
- The Technical Advisory Committee (TAC)
- Dedicated Diesel Equipment Inspector
- Diesel Training Instructor Certification

The Law

The Law was developed in conjunction with industry. This is one reason that we have very few issues with compliance other than the routine maintenance issues. The Law allows for the TAC to: *Evaluate alternative technology or methods for meeting the requirements for diesel-powered equipment as set forth in this chapter.*

The Law

Chapter 4. DIESEL-POWERED EQUIPMENT

- Section 401. Underground use
- Section 402. Diesel-powered equipment package
- Section 403. Exhaust emissions control
- Section 404. Ventilation
- Section 405. Fuel storage facilities
- Section 406. Transfer of diesel fuel
- Section 407. Containers
- Section 408. Fire suppression for equipment and transportation
- Section 409. Fire suppression for storage areas
- Section 410. Use of certain starting aids prohibited
- Section 411. Fueling
- Section 412. Fire and safety training
- Section 413. Maintenance
- Section 414. Records
- Section 415. Duties of equipment operator
- Section 416. Schedule of maintenance
- Section 417. Emissions monitoring and control
- Section 418. Diagnostic testing
- Section 419. Exhaust gas monitoring and control
- **Section 420. Training and general requirements**
- Section 421. Equipment-specific training
- Section 422. Diesel mechanic training
- Section 423. Operation of diesel-powered equipment
- **Section 424. Technical advisory committee**

The Approval Process

All equipment must be issued approval before use.

There are 2 approval types:

- BOTE-D For the diesel equipment
- BOTE-DEES For the engine/emissions system package

The basic process:

- Submit technical package
- Technical review: On-site inspection and testing (safety systems, emissions, etc.)

The Technical Advisory Committee (TAC)

The TAC is involved in all aspects of the process.

- Legislative
- Technical Guidelines and Standards
- Equipment Approval(s)
- Implementation of new technology
- Training and Certification requirements

The TAC is appointed by the Governor and consists of 2 members, one representing the interests of the miner, the other industry. Current members:

- Ron Bowersox (UMWA)
- Paul Borcheck (CONSOL, recently retired)

The Law allows for the TAC to: Evaluate alternative technology or methods for meeting the requirements for diesel-powered equipment. This allows for easy implementation of new technology.

Inspection and Enforcement

The Bureau has an established position for a dedicated diesel equipment Inspector. This individual must have 10 years experience, electrical certification and have extensive diesel and inspection experience.

He rotates between mines and is responsible for equipment inspection and ensuring that the operators are not only complying with the Law, *but understand how to comply*, i.e., provide education and training. There are approximately 650 pieces of equipment in the Pennsylvania inventory.

He is equipped with an ECOM, IR temperature reading instrument and other equipment as he deems necessary to fulfil his duties. He is also involved with new approvals and the TAC.

Training

There are 3 major areas of training:

- Operator-Equipment specific
- Mechanic
- Diesel Instructor (Train the Trainer)

All training programs must be approved by the Bureau.

Procedure for APPROVAL OF DIESEL INSTRUCTORS

Submit a resume to the Bureau of Mine Safety to include:

- Formal education
- Work experience
- Certifications held
- Subject matter expertise
- Training experience

The Bureau will approve instructors to teach specific course by one or more of three methods:

Method A

Instructor training by an approved organization.

- Applicant can attend a three-day instructor training course approved by the Bureau (MSHA, OSHA, DEP, and others).
- Successfully complete the instructor course.
- Submit information to the Bureau on their mining experience, training experience, and subject matter knowledge.

Method B

- Submit an application to the Bureau requesting approval to teach based on qualifications and teaching experience and include a list of the specific courses they intend to teach.
- Submit information to the Bureau of their mining experience, training experience, and subject matter knowledge.

Method C

The Bureau may designate persons as provisional instructors to teach specific courses. Each such instructor is subject to follow-up approval based on the Bureau's monitoring classroom performance.

- Submit in writing reasons why other approval methods would impose an extreme hardship.

An Example of Flexibility to Adapt

The Bureau had traditionally required the use of polyamide coating for the control of surface temperatures on most emission control system components rather than 'wraps' or 'blankets'. The operators made a request to the Bureau and the TAC to investigate the use of blankets in lieu of polyamide.

The TAC in conjunction with the Bureau researched the matter and developed guidelines for their use. The process took about a month, the regular meeting intervals for the TAC. The guidelines developed:

- Must be custom fit to the piece, either by sample or CADD
- Must have a part number in order to make replacement easier if damaged
- Must be recorded in the equipment's log book
- Obviously meets the requirement of keeping surface temperature < 302 deg F

This, in my opinion illustrates the flexibility that the PA Law allows for changes/advancement in technology.



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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Mine Safety

Questions/Discussion

Thank You

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