

**Fayette County Health Center**  
**100 New Salem Road, Room 167**  
**Uniontown, PA 15401**  
September 24, 2008

**Bureau of Mine Safety**

724-439-7469  
Fax 724-439-7324

Mr. Todd Shultz  
Brookville Equipment Corporation  
175 Evans Street  
P. O. Box 130  
Brookville, PA 15825

RE: **Final Approval** of the Brookville Equipment Corporation Model 25T174D 25 Ton Locomotive with a Deutz BF4M 1013 173 HP diesel engine and a M249 DST Management System.

Dear Mr. Shultz:

The standards and procedures for using diesel-powered equipment in Pennsylvania's underground bituminous coal mines are established by Article II-A of the Pennsylvania Bituminous Coal Mine Act (Act). Section 224-A of the Act establishes the Technical Advisory Committee on Diesel-Powered Equipment (TAC) whose duties include reviewing requests to use alternative technologies or methods to comply with the requirements of the Act. Any alternative technology or methods recommended by the advisory committee and approved by the Secretary shall not reduce or compromise the level of health and safety protection afforded by Article II-A.

Article IIA requires that an exhaust emissions control and conditioning system may be approved for multiple diesel engine applications through a single series of laboratory tests, known as the ISO 8178-1 test, only if data is provided to the advisory committee that reliably verifies that the exhaust emissions control and conditioning system will meet, for each diesel engine, the in-laboratory diesel particulate matter standard established by this subsection. Data provided to satisfy this provision shall include diesel particulate matter production rates for the specified engine as measured during the ISO 8178-1 test, if available. If ISO 8178-1 test data for diesel particulate matter production is not available for a specified engine, comparable data may be provided to the advisory committee that reliably verifies that the exhaust emissions control and conditioning system will meet, for the specified diesel engine, the in-laboratory diesel particulate matter standard established by this subsection. This standard shall only be used for in-laboratory testing for approval of diesel-powered equipment for use underground.

The TAC and members of the Bureau of Mine Safety evaluated the equipment and tested the emission system on May 9, 2008. The diesel power package includes a Deutz BF4M1013FC 173 HP turbo charged diesel engine, a DST model 249 management system which includes a DST M113-210-02

Oxidation Catalyst, a DST M115-301-21 heat exchanger and a DST M30 particulate filter. The emission test results showed the engine was performing within the Article II -A approval specifications.

The exhaust gas temperature was 190 degrees Fahrenheit, well below the 302 degrees Fahrenheit allowed by Section 203-A of the Act. The DST M30 disposable filter is rated by MSHA at 96% efficiency which produces an ambient DPM concentration of .016 mg/m<sup>3</sup> when diluted by 100% of the approval plate ventilation rate. This is below the .12mg/m<sup>3</sup> as required by the Act.

Based on the information provided, the TAC recommendation and system evaluations, the Department approves the Model 25T174D 25 ton locomotive with a Deutz BF4M 1013 173 HP diesel engine and a DST M249 Total System. The Department approves the TAC recommendations because the alternative method will not reduce or compromise the level of health and safety protection afforded by Article II-A of the Act.

BOTE-DEES 134-08 has been assigned the Deutz BF4M1013 FC engine and DST M249 Total System emission system and BOTE-D 140-06 has been assigned to the equipment. The enclosed General Specifications sheet must be strictly complied with. The PA ventilation rate for this engine is 7,000 cfm.

Should you have any questions regarding the process, contact my office at the above phone number.

Sincerely,

Joseph A. Scaffoni  
Director  
Bureau of Mine Safety

Enclosures

cc: Ron Bowersox/TAC  
Paul Borchick/TAC

bcc: W. Bookshar  
A. Martin

M. McCaffrey  
S. Gaida  
R. Ceschini  
D. Coffey  
P. Keruskin  
L. Stowinsky  
TAC file/A. Gaida

JAS/WBB/cd

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