

(29)

# Pennsylvania Technical Advisory Committee

## Diesel Powered Equipment

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July 12, 2004

Joseph Scaffoni, Director  
 Bureau of Deep Mine Safety  
 Fayette County Health Center  
 100 New Salem Road, Room 167  
 Uniontown, Pa. 15401

RE: Cummins 4BTA 3.9C (116HP) diesel engine

Mr. Scaffoni,

Article II-A of the Pennsylvania Bituminous Coal Mine Act of 1961 provides for the use of diesel-powered equipment in underground bituminous coal mines. Section 224-A created a Technical Advisory Committee for the purpose of advising the Secretary regarding implementation of Article II-A and evaluation of alternative technology or methods meeting the requirements for diesel-powered equipment as set forth in Article II-A.

### Background

On April 27<sup>th</sup> 2004, Brookville Mining Equipment Corp. requested that the TAC review the enclosed information and make a determination that the MSHA approved Cummins 4BTA 3.9C 116 HP diesel engine which will be equipped with a DST exhaust after-treatment system meets the requirements of Section 203(A)(a)(1).

The information provided includes actual ISO 8178-1 test results for the MWM D916-6 and the Isuzu 6BG1 diesel engines both of which were equipped with the DST after-treatment system. The test results of these exhaust emission control systems show an average DPM reduction of 96.23 %, which is well above the required reduction of 95% required by Section 203(A)(b)(1), for the DST after treatment system. This submittal also includes the actual ISO 8178-1 test results, both gaseous and particulate, for the Cummins 4BTA 3.9C 116 hp diesel engine.

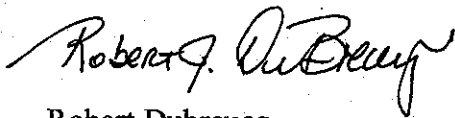
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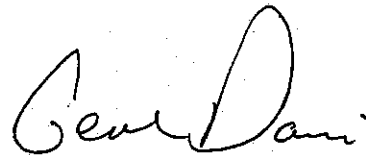
### Recommendation

After reviewing all of the supplied data and extrapolating the DPM out-put of the Cummins engine and the average DPM reduction of the DST after-treatment system, (96.23 %), the TAC calculated that the Cummins 4BTA 3.9C 116 hp diesel engine should emit .041 mg/m<sup>3</sup> which is well below the .12 mg/m<sup>3</sup> required by Section 203(A)(a)(1). The TAC believes that the information provided does reasonably verify that the Cummins 4BTA 3.9C 116 hp diesel engine does meet the requirements of the Pennsylvania Bituminous Coal Mining Laws.

Accordingly, the TAC is recommending approval by the Secretary of the Cummins 4BTA 3.9C 116 hp diesel engine with the DST after-treatment system provided the attached General Specifications Sheet of the Diesel Powered Equipment Package and the exhaust gas shut down temperature of 285<sup>o</sup> F, be strictly adhered to at all times.



Robert Dubreucq  
TAC Member



Gene Davis  
TAC member