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January 17, 2008

Mr. Richard E. Stickler
Acting Assistant Secretary of Labor
for Mine Safety and Health
1100 Wilson Boulevard
Arlington, Va. 22209-3939

Subject: RIN 1219-AB52

Dear Mr. Stickler,

CONSOL Energy Inc. is submitting the following written comments regarding the Computational Fluid Dynamics study performed by the U.S. Army Corps of Engineers to mathematically model the methane ignition at the Sago Mine.

In order to evaluate a Mathematical Model's ability to simulate an event, the output of the model needs to be compared to field measurements. The Lake Lynn Experimental Mine data can be used to create a model, but the ability to extrapolate the results of this model to a sealed area in an active coal mine is not completely understood.

At the public hearing on January 15, 2008 at the Mine Safety and Health Administration office located at 1100 Wilson Boulevard, Arlington, Va., Murali Gadde, of Peabody Energy, provided testimony to the panel. Dr. Gadde provided documentation of nearly 16,000 air samples collected from sealed areas at 17 coal mines in the U.S. Of those samples, none were found to contain a Stoichiometric mixture of gases which would allow for a detonation to occur. Dr. Gadde testified that the Corps lacked the needed information to properly calibrate their model. The model was not able to consider the effects of inert dust, the presence of carbon dioxide, the irregularities of the mine surfaces, and the stratification of gases. Dr. Gadde also questions how the strength of the seals was modeled. The method used in the model would impart a higher strength value to the seals than they were capable of.

Dr. Gadde gave testimony to the Structural Damage Calculations presented in the report. He stated that to accurately infer what pressures the structures underwent, the affects from the heat generated during the deflagration needed to be considered and that the structures would have been impacted with multiple pressure waves. The service load these structures endured prior to the ignition needed to be considered. The belt hangers may have been subjected to metal fatigue from the loading and unloading of the conveyor.

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When these conditions are considered, a smaller force could produce the equivalent damage of that modeled in the Corps' analysis.

CONSOL Energy Inc. supports Dr. Gadde and agrees with his testimony. Dr. Gadde said he will provide documents in his written comments to support his oral testimony. His work shows that the current 120 psi strength standard for seals required by the ETS will contain ignitions in a sealed area.

MSHA Tech Support and the USACE have both recognized the problems with modeling a methane ignition in a sealed area. The forces predicted by the model were not substantiated by the investigation at the Sago Mine after the ignition. Yet, years of scientific discoveries and research cannot be discarded when analyzing the potential hazards associated with sealed areas. In turn, neither can they be indiscriminately applied when calculating the potential hazards. An examination of the industry's history with sealed areas supports that. All associated with the industry agree additional work is needed to prevent a similar occurrence.

Sincerely,

Rick Marlowe
Director Safety Services

Philip Molesky P.E.
Senior Project Engineer

Cc: Patricia Silvey