Testimony of

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Good morning Mr. Chairman and members of the Committee. My name is Thomas Novak, and I am the C.T. Holland Professor and Department Head of Mining and Minerals Engineering at Virginia Tech. I have been associated with the coal mining industry as a miner, engineer, researcher, educator, and consultant for the past 35 years, and I thank the Committee for giving me the opportunity to address the issue of mine safety.

The coal mining industry has made major strides to improve worker safety over past decades. In the last 15 years, annual fatalities have dropped by 76%, from a high of 66 in 1990 to a low of 22 in 2005. Nevertheless, the tragic events that occurred during the first two months of this year have caused all of us to pause and reevaluate our commitment to mine safety. I am not here today to propose a *quick fix* to the problems of mine safety; instead, I am here to recommend an overarching approach through engineering and scientific research.

The U.S. government's strong commitment to research and development would provide the most effective means for improving mine safety. Universities with mining-engineering programs are ready to partner with mining companies and government agencies to identify mine safety issues and to conduct interdisciplinary research in order to address, eliminate, or at least minimize safety hazards. University researchers are also prepared to work with manufacturers to ensure the commercialization of proven technologies.

Unfortunately, government funding for mine safety research has significantly decreased over the last few decades. Funding dropped from a high of approximately $140 million in 1979 to approximately $30 million in 1999, with the vast majority of this amount going to in-house projects and personnel at NIOSH's two research labs. Because of this drop in funding and the

dismantling of the internationally renowned U.S. Bureau of Mines in 1996, the United States has lost much of its expertise in mine safety research. As a result, centers of excellence in mining research have shifted to other countries, such as Australia. The remaining technical fragments of the U.S. Bureau of Mines are now managed by NIOSH, operating under the Center for Disease Control. NIOSH's Office of Mine Safety and Health Research has been responsive to the mining industry's needs, but it can only do so much with its extremely limited contract research budget.

The decrease in contract funding has also devastated mining engineering education. In fact, only half of the programs that existed twenty years ago exists today. A recent study commissioned by the Society of Mining, Metallurgy, and Exploration (SME) estimates that 300-400 graduates per year will be needed to meet the demands of the industry for at least the next 10 years. At the same time, the SME reports that only 69 students graduated last year with baccalaureate degrees in mining engineering. Of the dozen accredited programs, only two graduated more than 10 students last year. Keep in mind this is for an industry that provides more than half the nation's energy for electricity, as well as the mineral products that are vital for our defense, manufacturing, civil infrastructure, and national economy. These are scary statistics, since highly trained mining engineers will be needed to design and manage our country's mining operations and deal with the complex issues of safety.

Along these same lines, over 60% of the mining engineering faculty is over the age of 50, and one-half of all faculty plans to retire within the next ten years. Thus, mining-engineering education is at a critical juncture. Research funding is necessary to produce the required Ph.D. graduates to replenish our aging faculty.

In summary, I hope the Committee will consider my recommendation to institute a strong, government-supported, university research program. This program offers the best method for addressing mine safety issues through a three-pronged approach which provides:

1. A means for in-depth, multidisciplinary analyses and solutions to the critical safety issues that confront our mining industry through collaboration with government agencies, mining companies, and manufacturers,

2. A means for producing well qualified mining engineers who are trained to promote a mindset of safety consciousness in the design and operation of our mines, and

3. A means for regaining our country's mine-safety expertise through the training of future researchers and mining-engineering professors, who will ensure the sustainability of a vibrant mining engineering profession.

I would further recommend that this program be administered through NIOSH's Office of Mine Safety and Health Research, or a newly created institute based on this Office, rather than MSHA. Research and enforcement should be kept separate, and MSHA should be permitted to totally dedicate its resources to enforcement.

Mr. Chairman and members of the Committee, thank you for your attention.