Testimony of

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on

Modernizing Mine Safety

On behalf of

The National Mining Association

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Mr. Chairman and members of the Subcommittee, thank you for the opportunity to testify. I am Tony Bumbico, Vice President of Safety for Arch Coal, Inc. (Arch). I am appearing today on behalf of the National Mining Association (NMA) and as a representative of Arch.

Arch Coal is our nation's second largest coal company with operations in six (6) states. We have 4700 employees at our underground and surface coal mines, preparation plants and ancillary facilities in Colorado, Kentucky, Utah, Virginia, West Virginia, and Wyoming. In 2010 the Arch Coal subsidiaries mined over 160 million tons of coal that was shipped to domestic power plants in 39 states for electric generation and to international customers on four continents.

The coal produced by our subsidiaries represents 15% of domestic production and 7% of the coal used for domestic energy generation. We are proud of the fact that our operations accomplished this while achieving the lowest reportable injury rates among our nation's diversified coal producers. While we're proud of this accomplishment, we are not satisfied. Injuries still occur at our operations. As a company we have more to accomplish and will not be satisfied until we reach our goal of zero injuries.

I began my career in 1974 as an underground coal miner in West Virginia. I was a member of the United Mine Workers of America, and was later elected to a position on the International Union's Executive Board, a position I held for six years. Following my tenure with the UMWA, I worked the next 25 years in various safety, human resources, and operations positions in the coal industry. While I've worn many different hats, I've always dedicated my career to promoting health and safety. During my career, the coal industry has made significant progress in this area. I'm a firm believer, however, that the industry can and must continue to improve its safety performance.

Before talking about Arch's specific efforts to modernize safety, I'd like to talk more broadly about the efforts to improve safety performance that are underway at the National Mining Association.

In 2007, NMA initiated an effort to examine the barriers to improved safety performance and to disseminate best-practice materials across the industry. This effort began with an examination of the industry's safety performance. While most people would agree that notable progress has been made over the last two decades, the industry has not reached its goal of zero fatalities

and injuries. Moreover, it appears that the reduction in fatalities has reached a plateau.

Improving safety performance at our current pace is not acceptable. As a result, NMA has initiated an effort that will complement what's been accomplished and challenge the industry to take a more aggressive path to modernize and improve safety performance.

NMA has studied, and continues to study, the safety practices of companies and industries from around the world that have exemplary safety performance. Successful safety processes all have certain common elements. They are integrated into an effective management system, are supported by senior management; involve their employees in the safety process; are reinforced by the organization's culture, and in return, support the culture.

These elements are common to successful safety and health processes across all industries. In NMA's estimation, these are the elements necessary to modernize health and safety in the U.S. mining industry.

Exemplary safety performers view adherence with regulatory requirements as the starting point, not as the finish. They recognize the limitation of enforcement as a means to improve performance. While compliance with the law is necessary and important, there are more effective ways to *improve* safety performance.

To be effective, a safety system should be specifically designed to meet the unique needs of an organization. The design must consider the organization's culture, and its workforce. When designing a performance-based safety system it's important to remember that "one size does not fit all."

In many respects overly proscriptive regulatory requirements can inhibit the ability of companies to respond proactively to health and safety issues. Often, the time spent dealing with bureaucratic requirements steals precious time that could be spent eliminating a barrier to safe performance. Enforcement is an important safety tool, but its ability to improve performance is limited. Quite simply, there are more effective ways to improve safety performance.

One key thing we've come to realize is that risk-based safety and health management systems that involve employees are more likely to move safety performance to the next level. Experience shows that "safe behavior" doesn't occur in a vacuum, it's shaped by leadership and culture. These are characteristics that are taught and nurtured, not legislated.

Arch Coal's Safety Process

Leadership and culture are the characteristics that have guided Arch's efforts to modernize safety. We've had some success developing a strong safety culture by applying the concepts of leadership, employee involvement, and problem-solving to health and safety issues.

At Arch, safety is a core value. It's integral to who we are. Our goal is to reach the Perfect Zero and we think this goal is achievable. Historically, Arch's safety performance has been solid. In 2010, our Total Incident Rate, which measures Lost Time and Medical Injuries improved to 1.10. That represents a 76% improvement since 1998. Over time, the Arch mines have performed well below the industry average. In fact, our five-year average is 72% better than the coal industry average. (Safety performance charts are attached.)

(Note: An incident rate is a means of normalizing injury rates so that different size organizations can be compared. It is calculated by multiplying the number of incidents times 200,000 hours and dividing that number by the hours worked by employees at that site. The 200,000 hours in the calculation represents the number of hours 100 people normally work in the course of a year).

We didn't achieve this level of performance overnight. Our safety process was constructed in layers. The building blocks were put in place over time. I'll take a few minutes to discuss each of these components. They include:

- Division Safety Plans
- Cross Operational Audits
- Safety Improvement Process
- Behavioral Based Safety Process

Division Safety Plans

When I arrived at Arch seven years ago, they had a solid safety foundation in place. The center piece of their process was a requirement that each operation meet minimum corporate safety standards. These standards were set forth as safety principles. These principles were incorporated in Division Safety Plans adopted by each operation. Over time, our operations have built on that foundation.

For example, each Arch operation must actively demonstrate a strong visible management commitment to safety; a working safety policy with a goal of **Zero Injuries;** and integrate their safety process into their organization. They must also establish line organization responsibility for safety; establish challenging safety goals and objectives; and require high standards of safety performance.

Each Arch operation must also employ supportive safety professionals; conduct comprehensive injury/incident investigations; and provide employees ongoing safety training. Other examples of our core principles include progressive motivation; effective two-way communication; and comprehensive safety audits.

Safety Improvement Plans (SIP)

In 2004, Arch implemented a continuous safety improvement process. This is a systems-based, goal-oriented process that follows an annual cycle. It focuses our operations on identifying and closing measurable gaps in safety performance. The SIP process focuses on measurable results.

Every year, each Arch operation develops a Safety Improvement Plan (SIP). Our operations analyze key safety performance metrics and establish between three and five improvement targets. Each SIP identifies what types of improvement interventions they plan to implement to achieve their targets. Our corporate safety professionals visit with them at the beginning and mid-way through each year to discuss their strategies and progress. At the end of the year, we evaluate what they've accomplished and start the process all over again.

Cross Operational Safety Audits

We also started conducting cross operational safety audits in 2004. Our cross operational audits supplement the safety audit process already in place at each operation. The concept is really quite simple. We take people from Mines A, B, & C and go to Mine D to evaluate its safety process. We use the audit to evaluate the health of a mine's Division Safety Plan; Safety Improvement Plan; and Behavior-Based Safety Process. We also use the audit to review their core safety processes.

Our Cross Operational Audits are not intended to be "wall-to-wall" inspections. They are designed to obtain a "snapshot" of how the mine solves health and safety problems, and to evaluate what their employees know about health, safety, and injury prevention.

Arch conducts four to five cross-operational safety audits per year. We attempt to emphasize constructive feedback. One of our primary objectives is to identify and share best practices. In addition, our Cross Operational Audit Process helps us to maintain our health and safety standards. It also serves as an employee development vehicle; and encourages employee involvement. Most importantly, it helps Arch visibly demonstrate its commitment to safety.

Other Key Safety Processes

I won't go into as much detail, but I'll mention a few other processes we've implemented to maintain our focus on continually improving safety performance, to address specific risks, and to build our safety culture.

Arch holds an annual safety summit for key managers, safety professionals and hourly employees active in our safety process. This event has grown to include nearly 100 internal safety leaders. This is our annual opportunity to recognize safety accomplishments and establish new performance objectives.

We also sponsor annual safety workshops to provide developmental opportunities for our safety professionals. In addition, we have designed and implemented specific health and safety processes to address performance

issues related to contractor safety; emergency preparedness; crisis communications; and explosives safety.

Behavior-Based Safety (BBS)

The processes I've mentioned were all in place by 2006. They'd helped us improve, but we weren't satisfied. We felt we were having too many injuries and that our safety performance had reached a plateau. In fact our Total Incident Rate increased from 1.80 in 2005 to 2.57 in 2006.

As a company, we believed that one injury was one too many and we were confident we could improve. That's why we decided to adopt a Behavior Based Safety (BBS) process. It's the vehicle we chose to drive our safety performance to the next level.

Since 2006, every Arch operation has implemented a BBS process. BBS is a safety improvement process that starts with analyzing the "safe" and "at-risk" behaviors involved in the daily tasks employees perform. Each Arch site has assigned a Management Sponsor, appointed a Facilitator, and established a Steering Team to support their BBS process.

The Steering Team normally consists of hourly employees. It starts by developing a list of "critical behaviors" with the potential to contribute to safety related incidents. This list of "critical behaviors" serves as the basis for a peer-to-peer safety observation process.

The Steering Team trains observers on how to use the critical behavior checklists to identify exposures that may lead to injuries. The observers provide their peers with feedback on whether behaviors are "safe" or "at-risk." The data gathered during the observation process is entered into tracking software to help identify "at-risk" trends and barriers to safe performance. This trend information is used to solve safety problems, identify improvement opportunities, and remove barriers to safe performance.

The BBS process implemented by Arch was designed by Behavioral Science Technology, Inc. (BST). While there are other BBS processes available, we chose BST because it was a systems-based improvement process that focused on the entire organization's leadership and culture.

Arch initiated the BBS process at our mines by conducting a comprehensive organizational assessment. The assessment analyzed key organizational dimensions that predict safety performance. The leadership team at each of our mines also participated in an evaluation and coaching process. Training was conducted to teach supervisors how to support the process, and employees were trained in data collection and problem-solving techniques.

The Arch operations have effectively implemented BBS. Now our focus is on sustaining the processes. We're attempting to do this by integrating BBS into our traditional safety process and our culture. We're also taking every opportunity to demonstrate visible safety leadership.

In a nutshell, BBS moves beyond the use of injury trends to measure safety performance and identify improvement opportunities. Injury trends are not predictive. They don't necessarily reflect the risks employees are exposed to because people are often lucky. They take shortcuts and get away with it. This leads to complacency. Before you know it they assume they can take the shortcut and not get hurt because (as the refrain goes) "we've always done it that way before."

Instead of relying solely on injury trends as the primary safety indicator, BBS focuses on identifying and reducing "at risk behaviors" and reinforcing "safe behaviors." The process helps to identify risk-related exposures and barriers to safe performance that can potentially cause injury. Basically, employees are encouraged to not take the chance of exposing themselves to risk, and to share information about the exposures they encounter.

Is Arch's BBS process working? We think so. It's been five years since we started this process and we're seeing positive trends in a number of key areas.

- Our Total Incident Rate has improved 57% from 2.57 in 2006 to 1.10 in 2010.
- Exposures have been reduced by 119,477 peer-to-peer safety observations.
- Safe behaviors are being reinforced by our 2,714 trained observers.
- Over 3,160 specific barriers to safe performance have been identified and eliminated.

- Our safety culture has been strengthened by making contact with 151,498 employees during the observation process.
- Our BBS Facilitators and Steering Team members have developed into a new core of safety leaders.

Ultimately BBS has made our safety culture and process stronger. It has helped by involving more employees in the safety process; improved communication flow within our organization; and upgrading the problem-solving skills of our employees. Here's what some of our facilitators said at a recent meeting about the BBS process:

- The process involves the workforce and empowers them to be self-directed in improving safety.
- The process holds employees accountable for their own safety performance.
- BBS empowers people to change in a positive way.
- BBS provides a format for structured problem-solving that can be applied to all areas, not just safety.

The Concept of Safety

Arch's BBS process is working because it teaches miners about the "concept of safety." Most major mine operators know the critical competencies miners need to reduce the risk of injury or illness. Miners need training in basic health and safety regulations, the technical skills they need to do their job, and emergency/escape preparedness skills. Most major mining companies address these competencies fairly well.

In my opinion, the biggest challenge we face in the mining industry is helping miners to understand the "concept of safety" and integrate them into an effective safety culture. Effective safety performance requires two key things. You have to improve the ability of miners to recognize and respond appropriately to hazards; and you have to convince them your company is serious about safety.

Understanding the concept of safety improves a miner's ability to recognize risks and respond appropriately. This is made more complex because mines aren't assembly lines. They are dynamic ever-changing environments with

conditions and risks that change rapidly. Miners have to be able to safely adapt to a changing environment.

What this means is that – unlike a controlled environment – you can't rely on rote learning techniques or prescriptive safety rules to ensure safe performance. That's why writing more safety rules and enforcing them more stringently is not an effective way to improve safety performance in coal mines.

You have to provide miners with higher level analytical and problem-solving skills. In terms of hazards, miners need to be capable of thinking at a conceptual level. They need to have the ability to recognize new exposures as conditions change. Safe miners are effective risk identifiers, decision-makers, and problem solvers. Involvement in BBS has helped our employees improve these skills. By focusing our employees on critical behaviors, BBS is increasing their understanding of the "concept of safety."

I'd like to turn to baseball to illustrate this point. Ted Williams was one of the most prolific hitters in baseball. He once said that…

> "A hitter just can't go up there and swing. He's got to think. Listen (he said) when I played I knew the parks, the mounds, the batter's box, the backgrounds. I studied the pitcher. I knew what was going on at the plate. It used to kill me to strike out, but when I struck out I knew what got me and what I was going to do about it."

Ted Williams was an effective hitter because he understood the "concept" of hitting. He understood the mental, as well as the physical, aspects of his trade. Ted Williams understood the critical behaviors that contributed to his success on the baseball field. That's why he was a master of his craft.

BBS is helping our employees "master" the concept of safety. A master is one who has superior skill or knowledge. An individual or team with the knowledge and skills to solve problems and creatively eliminate barriers to safe performance. Regulations don't develop masters. Masters are shaped by leadership, culture, training and involvement.

Voluntary Protection Program

We have found that performance-oriented, systems-based safety processes that involve employees help drive safety performance. Along this same line of thought, we believe safety performance would also be enhanced if MSHA adopted a program for mine safety modeled on the very successful Voluntary Protection Program (VPP) administered by the Occupational Safety and Health Administration (OSHA). The VPP, created in 1982, allows those employers who meet performance-based health and safety criteria to be removed from programmed inspection lists. OSHA will not issue citations for standards violations that are promptly corrected so long as the worksite continues to exceed the VPP standards. The VPP promotes a cooperative approach to workplace safety. Employee support and involvement is a prerequisite for acceptance into the VPP.

It's important to note that the VPP complements OSHA's enforcement activity, it does not replace it. MSHA could tailor a program in the same manner. VPP allows OSHA to focus its inspection resources on higher-risk worksites and would permit MSHA to do the same. This will become an increasingly important consideration as OSHA and MSHA alike are compelled to render resource allocation decisions in a time of budgetary limitations.

Once a worksite is accepted into the VPP program, it must prepare a self-evaluation annually to be submitted to OSHA along with injury and health rates. All compliance standards and worksites remain subject to OSHA inspections generated by complaints, accidents or other significant events. Because VPP participants develop and implement systems to prevent employee injuries and illnesses, the average VPP worksite has a lost workday incidence rate at least 50 percent below the average for its industry.

Since its inception, the VPP has steadily expanded the number of worksites participating in the program. They are located in every state and cover more than one million employees. In addition, since 1992, states have started their own VPP programs. Today hundreds of worksites participate in State VPP programs. In 1997, recognition of the program's success resulted in it being expanded to allow federal worksites to participate.

To improve and modernize mine safety, we need to operate more effectively. To improve safety performance, we need to move beyond a model based

strictly on enforcement. Enforcement is necessary, particularly with regard to "bad actors," but to truly modernize mine safety we have to develop performance structures that engage all stakeholders in a problem-solving manner.

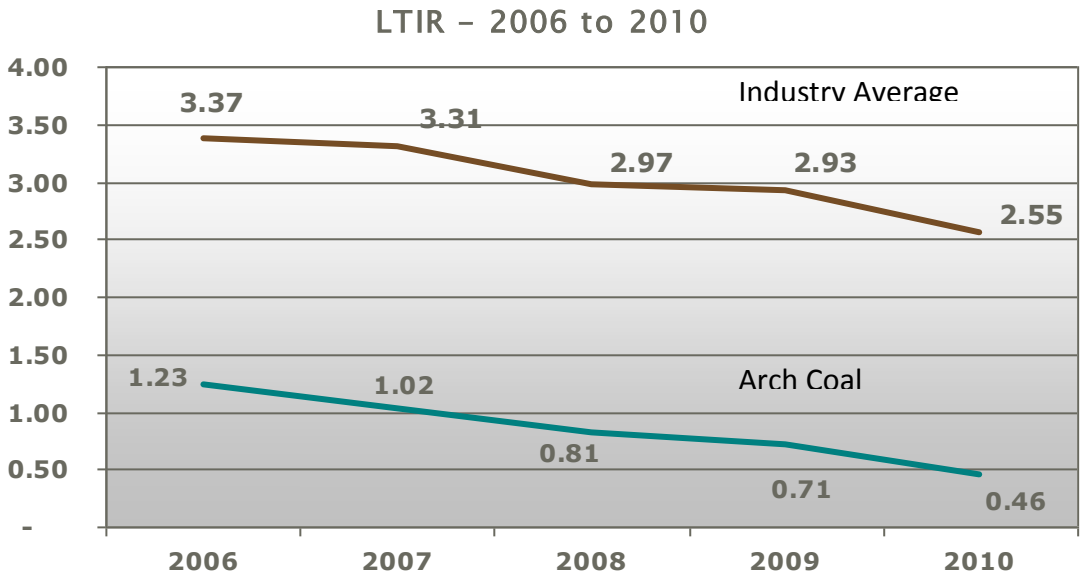
Performance structures based on risk-based approaches that establish higher standards, engage employees, and encourage cooperation simply make sense. If MSHA were to adopt a VPP-type process it would move the industry in that direction.

Closing

Mr. Chairman, thank you for the opportunity to testify. I would be happy to answer any questions.

Arch Coal, Inc.
Total Incident Rate 1998 – 2010

Lost Time Rate – Comparator Group
All Mines - 2010



- Five Year Rolling Average
  - Industry 3.03
  - Arch Coal 0.85
- Arch's Five Year Average is 72% better than the industry