

I am pleased to be here today and to participate in this panel.

The goal of our panel is to share insight into the needs and expectations of states and the public, pertaining to the technologies and research needed to insure the integrity of our nation's pipeline infrastructure. Although we may hear dissimilar views and opinions during this workshop, the underlying theme, with which I am sure we will all agree, is the importance of providing safe and reliable transportation of products by pipelines. The pipeline industry has touted its outstanding safety record for years, and the reality is that pipelines are the safest form of transportation available.

Unfortunately, in the past, there have been incidents with terrible consequences that are long remembered.

#### Bellingham Incident

On June 10, 1999, a fisherman and two ten-year-old boys were killed following a pipeline rupture, which dumped 229,000 gallons of gasoline in Whatcom Creek in Bellingham, Washington. The gasoline in the creek ignited killing the man and both young boys.

Olympic Pipeline Company, which owned the pipeline, was fined over \$3M dollars by the State of Washington and the U.S. Department of Transportation. The incident also resulted in two companies and three employees being criminally indicted.

#### Carlsbad Incident

On August 19, 2000 a rupture occurred near Carlsbad, New Mexico on one of three adjacent large natural gas pipelines owned by El Paso Natural Gas Company. Twelve people, including five children, died as a result of the pipeline rupture. The rupture left an 86-foot long crater.

An investigation conducted by the National Transportation Safety Board (NTSB) and the Office of Pipeline Safety (OPS) determined the probable cause of the pipeline failure was due to internal corrosion in a low spot on the pipeline. The twelve people that were killed were camping in a rural area and surely were unaware of any potential danger. After the incident, OPS levied a \$2.52 million dollar civil penalty against El Paso Natural Gas Company for safety violations on this line.

Doug Kilpatrick, one of our speakers from the State of Washington, has first hand experience and knowledge about the public's expectations, fears, concerns and anger in the aftermath of a major pipeline failure. Incidents like these clearly demonstrate that more must be done in the areas of research and development. In my judgment, these incidents also bring to light the need for real-time monitoring technology for pipeline facilities. Real-time monitoring will greatly enhance response times to abnormal operating conditions and emergency shut down procedures.

I believe there is an urgent need to develop new inspection tools that will allow us to analyze thoroughly pipeline integrity, both internally and externally. There is no question that there is a need to continue to improve our present intelligent pigging technology so that it can detect even minute flaws or anomalies.

While third party damage is the leading cause of pipeline failures and incidents, any technology that has a potential to reduce excavator damage to underground facilities should be high on the list of projects to consider.

The events of September 11, in New York, were a wake-up call to improve security measures to protect our nation's pipeline infrastructure. The role that research and development will play in preventing damage as a result of a terrorist attack is not clear at this time. However, prompt repair and restoration of the serviceability of a pipeline after any catastrophic failure are actions that additional research and development can and must enhance.

In July of this year the final report of the National Association of Regulatory Utility Commissioners and the Interstate Oil and Gas Commission Pipeline Siting Work Group was issued. Implicit in the report are the challenges faced in pipeline construction – siting and safety are, of course, the highest priority. The report projects a need to build 38,000 miles of natural gas transmission pipelines and 255,000 miles of distribution mainlines to meet increased demand primarily for use in gas-fired electric generation stations.

Providing adequate pipeline service to congested metropolitan areas has always been a siting challenge. The industry will continue to face this difficult challenge that can only be met by assuring local, state and federal officials that everything that can be done to increase safety is being done.

We have been asked to address three questions:

1. What needs do you have that R&D might be able to address?

There are probably hundreds of research and development projects underway or proposed that deserve to be funded. In my opinion, our most critical problem is the prevention of damage to underground facilities by excavators. I said earlier, that the leading cause of pipeline incidents is third party damage. The National Association of Regulatory Utility Commissioners (NARUC) has always supported underground damage prevention. NARUC also participated in the Common Ground Alliance study that resulted in the “Best Practices Report” and helped to develop the national Dig Safely campaign. The Best Practices Report and The Dig Safely campaign promotions are presently being used by one call centers throughout the nation to reduce damage to pipelines by excavators. In Illinois we have had a very aggressive program for years that urges all excavators and property owners to call Joint Utility Locating Information for Excavators (JULIE) before doing any digging. Believe it or not, despite all the promotion

and advertising this program has received, we have had approximately 6,300 hits in 2001. This is unacceptable.

Unfortunately, over the past several years, we have seen an enormous increase in the number of underground facilities damaged by directional boring, in addition to the problems we already had with normal excavating equipment. I believe that further research in underground damage prevention should be at the top of the list for funding consideration. We must develop new technologies and improve existing technologies that will determine a more accurate location of underground facilities, and also determine the depth of those facilities. We should continue research and development on boring head sensors that will warn directional boring operators of potential contact with underground facilities. It is my understanding that the Common Ground Alliance is currently working on these issues. We may want to consider supporting the Research and Development Committee's recommendations for research and development improvement in underground damage prevention. However, research and development alone won't correct this situation if excavators continue to ignore the rules and don't call. We have tried persuasion – it hasn't worked. I have concluded that penalties should be much higher for not calling and also for being too aggressive in digging even if the call is made. Penalties should be high enough to convince excavators and all landowners that it is in their own best interest to “dig” responsibly.

## 2. What are your R&D priorities and why?

Corrosion is the second leading cause of pipeline failures and I believe that we also should focus our attention in that direction. The catastrophic failures on interstate natural gas pipelines and liquid pipelines indicate that internal and external corrosion is still a real problem. Intelligent pigging technology has come a long way over the past five or six years in the monitoring of the internal condition of pipelines, however, we need to continue our research to improve this vital technology. We also need improved technology for real-time corrosion monitoring of pipelines.

3. How would you decide the most important research and development projects on which to focus?

In my opinion the most efficient process for decision making concerning critical research and development areas is to have knowledgeable people, who are given factual information, study all aspects of each proposed project. The projects should be ranked through a consensus-building format and then put out for review by all stakeholders.

As a test case of this process we might recommend to the Office of Pipeline Safety, that a committee of specialists in the field of corrosion and decision-makers be formed to study this issue. The committee's goal would be to identify new and existing technologies that can reduce or prevent failures in pipelines as a result of corrosion, both internal and external, prior to review by interested parties.

I have discussed the two most common causes of pipeline failures, third party damage and corrosion. I realize there are other projects that warrant research and development such as pipeline integrity management tools, cheaper or improved methods of repair, etc. However, I believe that advances in technology in these two areas will greatly enhance public safety by saving lives and property and will be cost effective.

We are fortunate today to have with us four individuals who are experts in the field of pipeline safety and who understand the importance of research and development to make a safe mode of transportation even safer.

Our speakers today are Doug Kilpatrick, Washington State Public Utilities Commission, Bob Leonberger, NAPSR, and Chief John Eversole, International Association of Fire Chiefs.