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Quadrennial Energy Review Task Force Secretariat
Office of Energy Policy and Systems Analysis
EPSA-60, QER Meeting Comments
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

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RE: Quadrennial Energy Review: Comment on the Public Meeting “Petroleum Product Transmission & Distribution”

On May 21, 2014, the Quadrennial Energy Review Task Force Secretariat and Energy Policy and Systems Analysis Staff (DOE) released a memo to the public regarding the May 27, 2014, public meeting in New Orleans, LA to examine Petroleum Transmission, Storage and Distribution Infrastructure. The limited pipeline safety discussion of the memo would benefit from additional information and perspective.

Pipelines are the safest mode of transporting large volumes of energy liquids over long distances over land. In 2012, 99.9998% of the crude oil, petroleum products, and natural gas liquids transported by pipeline reached their destination safely.

The safety record of pipelines is a natural outcome of the major financial investment pipeline operators make in pipeline safety each year. In 2012, pipeline operators spent at least \$1.6 billion on pipeline integrity management evaluating, inspecting and maintaining their pipelines.

The result is that over the last decade, liquid pipeline incidents are down over 60 percent and volumes released from pipelines are down over 45 percent. In addition to reducing the overall number and volume of pipeline releases, pipeline operators have also reduced specific causes of pipeline incidents. Over the last 10 years, pipeline incidents caused by corrosion are down 79%, third-party damage is down 78%, and operator error is down 57%.

An example of the relative safety of pipelines is the proposed Keystone XL pipeline. The Final Supplemental Environmental Impact Statement completed by the U.S. Department of State for the Keystone XL pipeline found that alternative modes of

transportation would result in 2.4 to 9.0 times more crude oil released to the environment each year compared to that pipeline. Compared to constructing a new pipeline such as Keystone XL, relying upon non-pipeline transportation infrastructure would result in the additional release of between 29,778 and 172,830 gallons of crude oil to the environment.

While pipelines are a safe mode of energy transportation, liquid pipeline operators remain focused on continuous improvement with the ultimate goal of zero incidents. Earlier this year, pipeline members of AOPL and API launched the *Pipeline Safety Excellence*[™] initiative. This effort reflects the shared values and commitment of our members to work together to safely build and operate pipelines.

The *Pipeline Safety Excellence*[™] initiative is driven by shared pipeline safety principles such as zero incidents, continuous improvement and learning from operators' experiences. The goal of zero is rooted in the belief that if we pursue perfection, we can achieve safety excellence. Through the continuous industry-wide pipeline safety efforts of numerous API and AOPL safety work groups, we decide on our priorities, pool our resources and share our learnings from the incidents that do occur. Collaboration, cooperation and sharing are occurring on a daily basis as we drive to our goal of zero.

This year, pipeline operators began annual pipeline safety performance reporting to the public. We have also implemented an annual pipeline safety strategic planning process to focus industry efforts on the most important pipeline safety priorities. The result is seven strategic initiatives in 2014 to:

- accelerate research and development to detect and diagnose cracks for in line inspection
- develop an industry-wide recommended practice to analyze and respond to cracks
- develop industry-wide guidance to integrate data from all threats
- develop a pipeline safety management system that all operators can implement
- foster a safety culture through industry-wide sharing of learnings
- develop an industry-wide recommended practice for leak detection program management
- deploy a nation-wide emergency response training and outreach program, including an industry-wide recommended practice for emergency response

Further information on these strategic initiatives and liquid pipeline industry performance may be found at: <http://www.aopl.org/safety/safety-excellence-program/>.

The DOE meeting memo focused its brief and limited discussion of pipeline safety issues on leak detection. A deeper knowledge of pipeline incidents, their locations and the leak detection strategies used to detect them will aid DOE's understanding of this issue. A cursory review of PHMSA's incident database can produce a leak detection technology success rate of 17%, as the memo states. However, this merely proves that certain leak detection technologies are not finding the leaks they are not designed to find in locations they are not intended to focus upon.

As reflected in PHMSA's incident database, over 60% of all pipeline incidents occur within a pipeline operating facility such as a pump station. A typical example will be a small leak from a pump valve or seal. Indeed, 40% of all incidents are less than 10 barrels. Local operating personnel on duty and monitoring their facilities naturally are the predominant source of detecting these small, in-facility leaks, identifying and reporting 69% of facility leaks. Leak detection technology will show a lower detection rate because operator personnel present at the location are reporting the incidents first.

In contrast, pipeline control room monitoring technology is designed to detect large, high pressure or volume swings in pipeline flow. Large releases or ruptures of 1,000 barrels or more account for 85% of the total volume of liquids released. These releases will occur outside of pipeline facilities along the public right-of-way. Quickly detecting large ruptures, especially where they might impact the public or environment, is the main priority of pipeline operators. Operators use several complimentary strategies to detect pipeline releases and ruptures including control room pressure and flow volume monitoring technology, aerial over-flights, and patrolling along the pipeline right-of-way. In total, pipeline operator methods identify 58% of all pipeline release along the right-of-way and 72% of releases of 1,000 barrels or more.

Thus, a PHMSA incident database populated mostly with small, facility incidents that are not the primary focus of pipeline operator control room monitoring technology will naturally produce the lower number DOE cited, even if this is not the best gauge of or approach for detecting ruptures with the greatest impact on the public or environment.

On this, or any other safety topic, representatives of liquids pipeline operators would gladly discuss these issues further with DOE staff and provide additional information to questions staff may have. Please feel free to contact John Stody of AOPL at 202-292-4509 or jstody@aopl.org for additional assistance.

Sincerely,

A handwritten signature in cursive script that reads "Andrew J. Black".

Andrew J. Black