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**Testimony of**

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**Before**

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“Enhancing Energy Infrastructure Resiliency and Addressing Vulnerabilities”  
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I am Andy Black, President and CEO of the Association of Oil Pipe Lines (AOPL). AOPL represents the owners and operators of energy liquids pipelines. Thank you for the opportunity to discuss the vulnerabilities and resiliencies of liquid pipeline infrastructure.

Liquid pipeline infrastructure benefits American consumers and workers across the United States. Pipelines are the safest and least-expensive mode of energy transportation over land. Liquid pipeline operators are expanding the nation's infrastructure network to move energy from new production and storage areas to customers. Liquid pipeline operators are also investing heavily and taking extensive industry-wide action to maintain and improve the safety of liquid pipelines. Government can help ensure existing and new pipelines meet the needs of the American people by avoiding unnecessary delays in regulatory action and permitting approvals, and continuing to provide a transportation rate structure that supports new pipeline infrastructure investment.

**Liquid Pipeline Infrastructure Benefits American Consumers and Workers**

Liquids pipelines transport the crude oil, refined products, and natural gas liquids that American consumers and workers use every day to lead their lives and fuel their jobs. In 2012, liquid pipeline operators delivered more than 14.1 billion barrels of crude oil and petroleum products across more than 185,000 miles of pipeline in the U.S.

Liquids pipelines transport crude oil from production areas across the U.S. and Canada to storage hubs and refineries. Separate liquids pipelines transport refined petroleum products (like gasoline, diesel fuel, jet fuel, home heating oil, and propane) from refineries to local distribution

terminals. Still other liquids pipelines deliver natural gas liquids products (like ethane, butane, and propane) from production areas, to and from fractionation facilities, and on to U.S. consumers, manufacturers, and industrial users.

Americans benefit from liquids pipelines to heat their homes, fuel their vehicles, dry their clothes, harvest, and dry their crops, manufacture consumer goods, and more. Nearly every gallon of gasoline American consumers put into their vehicles travels at some point through a liquids pipeline. Liquids pipelines allow American consumers to benefit from U.S. crude production regions in Texas, North Dakota, California and states in between. Liquids pipelines are transporting growing supplies of natural gas liquids from new production areas in Pennsylvania, Ohio, and Texas to chemical and plastics manufacturing facilities in the U.S. and creating new, good-paying jobs for American industrial workers.

Delivering the benefits of liquid pipeline infrastructure to the American people requires pipelines connecting crude oil and petroleum products to refining, storage and distribution centers where Americans can receive and use these products. Changing supply, transportation and distribution patterns have developed in response to increased production in regions such as the Eagle Ford shale formation in south Texas, the Niobrara shale of Colorado, and other areas from Wyoming to Ohio. Greatly increased production in existing production areas such as the Bakken in North Dakota and Permian in Texas require additional infrastructure construction.

Pipeline operators are spending billions of dollars to construct new pipeline infrastructure connecting America to its changing and growing energy supplies. Pipeline operators are building new lines, expanding the delivery capacity of existing lines, and reversing the flow of other lines to match our infrastructure to America's energy needs. More than 10,000 miles of new liquids pipelines have been placed into service in the last four years, according to the U.S. Department of Transportation<sup>1</sup>. A recent review predicts \$9.4 billion in pipeline infrastructure spending in 2014 reflecting over 3,300 project miles of pipeline.

Government policies also play a huge role in assuring availability of needed pipeline capacity. Thankfully, the Interstate Commerce Act and Federal Energy Regulatory Commission (FERC) policies today appropriately incent liquid pipeline operators to construct infrastructure needed to respond quickly to changing needs by propane suppliers and other shippers. It is important that FERC continue its well-established policy of honoring the sanctity of transportation agreements between pipeline operators and shippers to ensure that needed new infrastructure can be built. It is essential that States make timely decisions on siting requests for pipelines, Federal agencies process permits needed for certain pipeline construction activities, and, of course, the U.S. Department of State efficiently grant Presidential Permits for pipeline facilities crossing our national borders.

### **Pipelines Are the Safest Mode of Energy Transportation Infrastructure**

Pipelines are the safest mode of transporting large volumes of energy liquids over long distances over land. In 2012 alone, 99.9998% of the crude oil, petroleum products, and natural gas

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<sup>1</sup> Annual Report Mileage, U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration,  
<http://www.phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=d731f5448a359310VgnVCM1000001ecb7898RCRD&vgnextchannel=3b6c03347e4d8210VgnVCM1000001ecb7898RCRD&vgnextfmt=print>.

liquids transported by pipeline reached their destination safely. The Final Supplemental Environmental Impact Statement completed by the U.S. Department of State for the proposed 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. Denying the XL Presidential Permit and relying upon non-pipeline transportation infrastructure to transport an equivalent amount of product would result in the additional release of between 29,778 and 172,830 gallons of crude oil to the environment.

While new pipelines will employ the most up to date materials, construction techniques and protection systems, a topic of discussion today is the degree to which aging existing infrastructure represents a vulnerability. As U.S. National Transportation Safety Board Chair Deborah Hersman testified before the U.S. Senate in 2013, if a pipeline is adequately maintained and properly inspected, age is not the critical factor in pipeline safety. The condition of the pipe itself is most important.

To that end, pipeline operators spent over \$1.6 billion in 2012 evaluating, inspecting and performing maintenance on their pipeline systems. An extensive set of pipeline safety laws in the U.S. code and federal regulations administered by the U.S. Pipeline and Hazardous Materials Safety Administration directs the safe design, construction and operation of pipelines. On a continuous cycle, pipeline operators review their pipeline systems, evaluate the risks those systems face and the condition of their pipelines, schedule and undertake inspections to identify potential problems, and perform maintenance with the goal of fixing any potential problems long before they become an actual safety issue.

Pipeline operators are also engaging in extensive industry-wide efforts to improve pipeline safety performance and minimize their safety vulnerabilities. In 2012, pipeline operators adopted a set of industry-wide safety values, including the goal of zero incidents. Industry-wide, operator-led safety groups continue to develop new standards and recommended practices developed by the American Petroleum Institute, and in many cases adopted by PHMSA through regulation. In 2014, the liquid pipeline industry launched the *Pipeline Safety Excellence* initiative to take these safety efforts to the next level. The effort includes public sharing of our safety performance record and strategic initiatives addressing a number of key safety issues such as inspection technology, crack management, leak program management, emergency response and more.

### **Pipelines Are the Most Cost-Effective and Efficient Mode of Energy Transportation**

Pipelines are also the most cost-effective form of energy transportation infrastructure and the ideal method of transporting large volumes of energy over long distances. The U.S. Energy Information Agency (EIA) reports<sup>2</sup> that shipping crude by rail costs an average of two to three times more than by pipeline. There is a role for rail transportation of crude oil and petroleum products depending upon the route, availability of pipeline capacity, time horizon or specific customer needs. Liquid pipeline operators compete vigorously against other pipeline operators and railroads, trucks, and barge operators that also transport energy liquids.

In addition, under the FERC's incentive-based regulatory policies, market forces incent liquids pipelines to continuously improve operating efficiencies, which benefits both pipelines and their shippers -- pipelines profit from operating more efficiently, less efficient pipelines are incented to improve, and shippers benefit from efficient operations in the form of lower tariff rates per barrel-mile.

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<sup>2</sup> EIA Today In Energy, July 26, 2012, <http://www.eia.gov/todayinenergy/detail.cfm?id=7270>

FERC's policies are effective at promoting operating efficiencies due to the more competitive nature of the liquids pipeline industry.

### **The Importance of Pipeline Infrastructure This Winter**

The importance of pipelines and other midstream transportation infrastructure was underscored by what has happened this winter in propane markets. Propane inventory levels in the Midwest, downstream of pipelines, began this fall at abnormally low levels, according to the EIA<sup>3</sup>. This set the stage for the most recent supply difficulties. Large supplies of propane were needed this fall to dry crops after a harvest that was late, abundant, and often wet. Following this increased agricultural demand, the Midwest then needed considerable supplies of propane for heating during a winter that was early, long and often very cold. The result was more local and regional concerns with downstream propane supply than has been the case in many recent years.

This winter, when local propane supplies fell, pipeline operators were asked to help, and they responded. One pipeline asked shippers of other refined products on its pipeline system to voluntarily defer shipments so that propane shippers could ship propane from Mont Belvieu, Texas, and some shippers agreed. Another filed tariffs at FERC to facilitate the delivery of additional propane supplies from Conway, Kansas to markets. And a third submitted a tariff filing at FERC to facilitate the shipment of additional propane supplies and alerted shippers about available pipeline capacity to ship propane from Alberta. Meanwhile, other dedicated propane pipelines continued to run at maximum capacity. When officials of the Department of Energy initiated regular calls to coordinate efforts to ease the crisis, AOPL participated fully and worked with its members to help address supply and transportation issues.

This situation was not the result of inadequate pipeline infrastructure. There is enough pipeline capacity to transport propane supplies to where they are needed. Pipeline operators offer propane transportation service to shippers year-round. However, propane shippers do not ship consistent amounts throughout the year. Generally, propane shippers ship less propane during late winter, spring, and early summer, and more propane just before fall harvests and into winter. Propane supply concerns can in large measure be alleviated by increased off-season purchases by propane market participants in supply areas, with advance shipment to consuming areas and injection of these supplies into storage. The pipeline industry stands ready to accommodate that shift in supply planning patterns by propane market participants, should they elect to do so.

Pipeline operators and AOPL have a strong history of working with shippers and government before and during times of crisis so that American consumers and workers can continue to receive the products they need.

### **The Resilience of the Liquids Pipeline Sector**

After Hurricane Sandy produced local flooding and power outages causing reduced supplies of gasoline and other refined products in New Jersey, pipeline operators worked with government and local stakeholders to restore service. After Hurricane Katrina knocked out power supplies needed for pipeline operations and caused concerns about supplies in the Carolinas and mid-Atlantic, pipelines themselves remained intact and ready to make deliveries to local storage and distribution centers as

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<sup>3</sup> EIA Propane Situation Update, February 26, 2014,  
[http://www.eia.gov/pressroom/presentations/propane\\_02262014.pdf](http://www.eia.gov/pressroom/presentations/propane_02262014.pdf)

these facilities regained power and resumed operations. These rare crises demonstrate the importance to Americans of maintaining a robust and reliable pipeline network and the resilience of the liquid pipeline sector.

Pipeline operators also maintain protection against potential cyber-security attacks. API standard 1164 *Pipeline SCADA Security* provides industry-wide direction to protect pipeline supervisory control and data acquisition (SCADA) systems. SCADA systems allow pipeline operators to control pipeline flows, pressures, open and close valves and otherwise operate the pipeline. API 1164 requires operators to keep these systems separate and distinct from other operator telecommunications infrastructure for business operations. The SCADA system and its associated telecommunication network is only used for the transfer of SCADA data. External applications, such as email, internet access, third party connections, voice over IP telephone, etc. are not allowed, and all unused telecommunication interfaces must be disabled.