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Testimony of

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U.S. Senate Committee on Energy & Natural Resources

"Short on Gas: A look into the propane shortages this winter"
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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. I applaud the Committee for its continued interest in energy infrastructure, and for holding this hearing. Thank you for the opportunity to discuss the role of pipeline infrastructure in propane supply.

Liquid pipeline infrastructure across the U.S. benefits American consumers and workers. Pipelines are the safest and least-expensive mode of energy transportation over land. During the recent local propane shortages, pipeline operators worked with propane shippers and the federal government to facilitate the delivery of additional propane supplies. Liquid pipeline operators are expanding the nation's pipeline network to move energy from new production and storage areas to customers in traditional demand areas as well as developing markets. Although new or expanded capacity is needed and will be needed to support the tremendous growth in U.S. energy supplies, pipeline capacity generally is sufficient, especially during off-peak times, to ensure that fuel supplies such as propane and motor fuels are adequate to meet domestic seasonal needs. Government can help ensure the availability of adequate pipeline infrastructure by avoiding unnecessary delays in regulatory approvals and continuing to provide a transportation rate structure that supports new pipeline 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, and home heating oil) from refineries to local distribution terminals and other demand markets. 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 North Dakota, Pennsylvania, Ohio, Oklahoma and Texas to chemical and plastics manufacturing facilities in the U.S. and creating new, good-paying jobs for American industrial workers. Pipeline construction creates good-paying jobs, as well.

Recent Propane Issues

The importance of pipelines and other midstream transportation infrastructure was underscored by what happened last winter in propane markets. Propane inventory levels in the Midwest began last

fall at abnormally low levels, according to the Energy Information Administration (EIA)[1]. This set the stage for some regional supply difficulties last winter. Large supplies of propane were needed last fall to dry crops after a harvest that was late, abundant, and often wet. Following this increased agricultural demand, the Midwest and Northeast then needed considerable supplies of propane for heating during a winter that was early, long and often very cold. In fact, the NOAA data shows that this last winter was the fifth coldest in their 115 years of record keeping. The result was more local and regional concerns with propane supply than has been the case in many recent years.

A network of liquid pipelines delivers propane and other natural gas liquids from storage hubs in Texas and Kansas to distribution facilities across the South, Midwest, Upper Midwest, and the Northeast. The Dixie dedicated propane pipeline runs from Texas across the south to North Carolina. Enterprise TE Products Pipeline (TEPPCO) delivers refined petroleum products and natural gas liquids, including propane, from Texas north to southern Illinois and then east to Ohio, before continuing on as a propane pipeline into Pennsylvania and New York.

The Mid-America Pipeline (MAPL) delivers propane and natural gas liquids from a storage hub in Kansas to Wisconsin and Minnesota. The Kinder Morgan Cochin pipeline delivers propane and natural gas liquids southward from Canada down across the Upper Midwest arcing below Lake Michigan and then up into the State of Michigan. ONEOK Partners also operates natural gas liquids pipelines in the Midwest.

Pipeline operators generally do not own the products shipped on their systems. Like FedEx or UPS delivering the packages of others, pipeline operators transport energy products on behalf of shippers who choose if and when to ship products, what product to ship, decide on the quantity of their requests for pipeline transportation service, own the products being shipped, and accept the product when it is delivered. A pipeline earns revenue by collecting a rate for the transportation services it

[1] EIA Propane Situation Update, April 22, 2014, http://www.eia.gov/pressroom/presentations/propane_briefing_04222014.pdf

provides to shippers. The more pipelines deliver, the more money pipelines earn. Thus, pipeline operators have every financial incentive to make deliveries, including deliveries of propane, when they are requested by shipping customers.

The rates, terms and conditions of shipping on an interstate liquid pipeline are regulated by the Federal Energy Regulatory Commission (FERC). Such matters as how much a pipeline charges a shipper to make a shipment, the order in which a product is shipped relative to other shippers' products, and the equitable apportionment of transportation capacity when a pipeline system is constrained are set forth in a tariff on file with the FERC.

This past winter, when local propane supplies fell, concern naturally focused on the reasons and potential solutions. Pipeline operators were asked to help, and they responded. TEPPCO asked shippers of certain refined products on its pipeline system to voluntarily defer shipments so that propane shippers could ship propane from Mont Belvieu, Texas, and those shippers generally cooperated in light of the unusual circumstances. ONEOK filed multiple tariffs at FERC to facilitate the delivery of additional propane supplies from Conway, Kansas to markets. Kinder Morgan submitted a tariff filing at FERC to facilitate the shipment of additional propane supplies and alerted shippers about available capacity on the Cochin Pipeline from Alberta. Meanwhile, Enterprise's MAPL, a dedicated propane pipeline, 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.

FERC issued a one-week emergency order[2] that was effective February 7-14, directing TEPPCO to prioritize shipments of propane from Mont Belvieu, Texas to locations in the Midwest and Northeast in order to help alleviate propane supply concerns in those regions. TEPPCO voluntarily

[2] *See Enterprise TE Products Pipeline Company, LLC*, 146 FERC ¶ 61,076 (2014) ("Order Directing Priority Treatment"); *Enterprise TE Products Pipeline Company, LLC*, 146 FERC ¶ 61,085 (2014) ("Order Extending Priority Treatment"). Effectively, the orders overrode the rules in TEPPCO's tariff on apportionment of pipeline capacity.

agreed to a one-week extension of the emergency order through February 21. TEPPCO complied with the emergency orders and prioritized the propane transportation requests made by its shippers during this period.

Pipeline Infrastructure Is Available for Propane Delivery

The propane shortages during the winter of 2013-2014 were not the result of inadequate pipeline infrastructure, nor were they the result of inadequate propane supplies. There is enough pipeline capacity to transport propane supplies to where they are needed, so long as the owners and shippers of the propane adequately plan for their winter demand prior to the winter. The shipping capacity of propane pipelines runs from approximately 50,000 barrels per day each for the Cochin and Mid-America East and West pipelines, to as much as 160,000 barrels per day on the Dixie pipeline.

Figure 1 provides further background on the propane capacity and supply issues of this past winter in Minnesota as an example. The graph shows the 48,000 barrel per day capacity of the western leg of the MAPL pipeline, which serves southern Minnesota. The shaded yellow area shows historic average usage levels for the pipeline and the blue line shows the specific amount of propane requested and shipped on the pipeline.

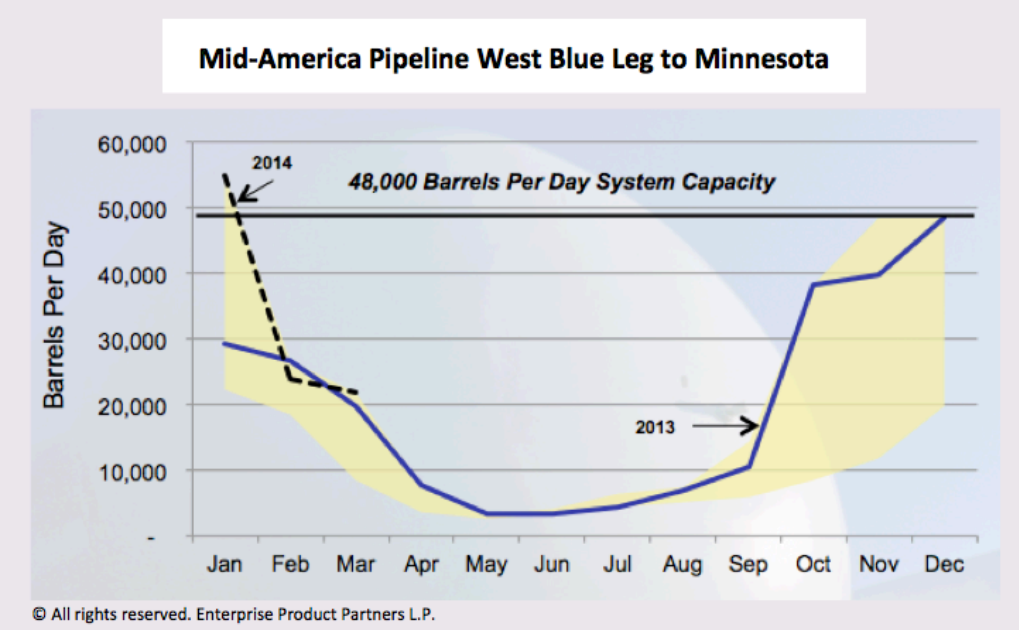


Figure 1

While the pipeline has a capacity of 48,000 barrels per day, on a yearly average, MAPL West transports only 15,000 bpd, or 32 percent of the pipeline's capacity.[3] For all but a few weeks of the year during winter, customers ship only a fraction of the propane able to travel on the MAPL West pipeline. Numerically, that means about 11.8 million barrels of propane capacity goes unutilized each year by propane shippers.

Similarly, Figure 2 illustrates the capacity and usage of the MAPL East Blue pipeline serving Wisconsin. MAPL East Blue has a capacity of 53,000 barrels per day, but ships on average only 27,000 bpd.[4]

[3] Enterprise Products Partners L.P, Apr. 2014.
[4] Id.

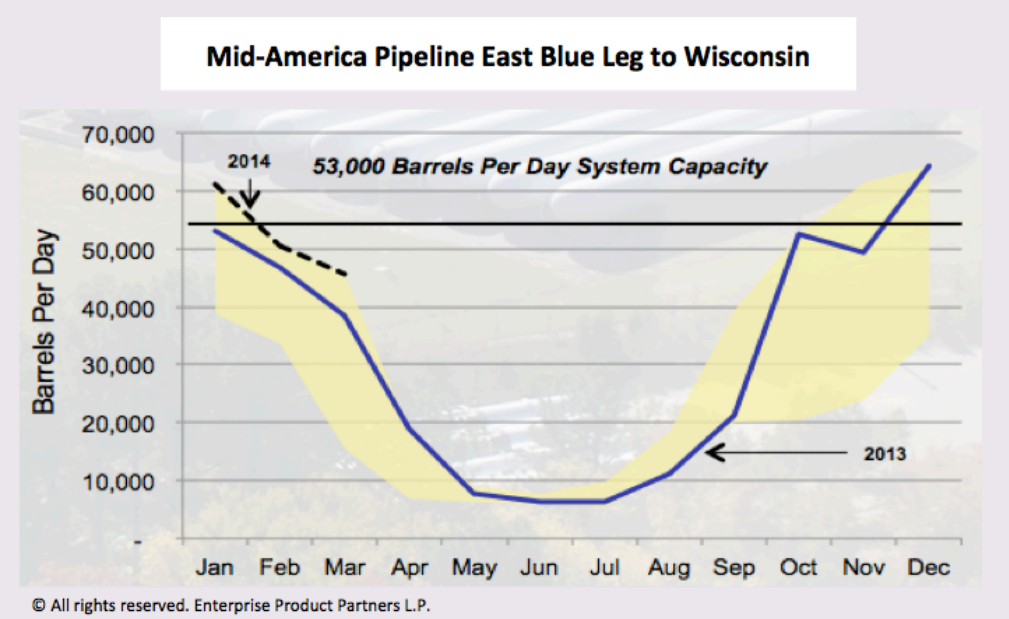


Figure 2

Similarly, this 50 percent utilization rate means that on average 9.5 million barrels of propane capacity on MAPL East Blue goes unutilized each year by propane shippers.

As discussed above, pipeline operators do not choose how much product is shipped on their pipeline or at which times shipments are made. A pipeline operator would prefer to run at or near 100 percent capacity all of the time. Instead, what drives pipeline utilization is the propane distributors and marketers who place orders for propane and decide how much and when they want their deliveries. As Figures 1 and 2 show, the demand for propane shipments by propane distributors and marketers falls dramatically during the spring and summer months. When there is plenty of time and space to take propane deliveries and stock up for peak fall and winter seasons, propane distributors and marketers are not taking full advantage of available pipeline capacity.

Figure 3 illustrates propane inventories in the Midwestern states, otherwise known as PADD-2 in Energy Department parlance.

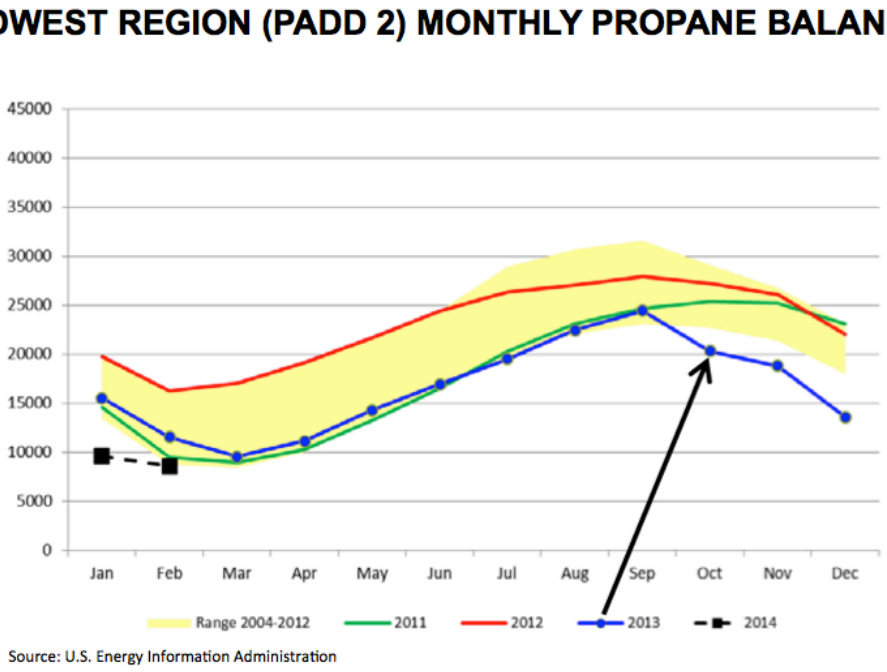


Figure 3

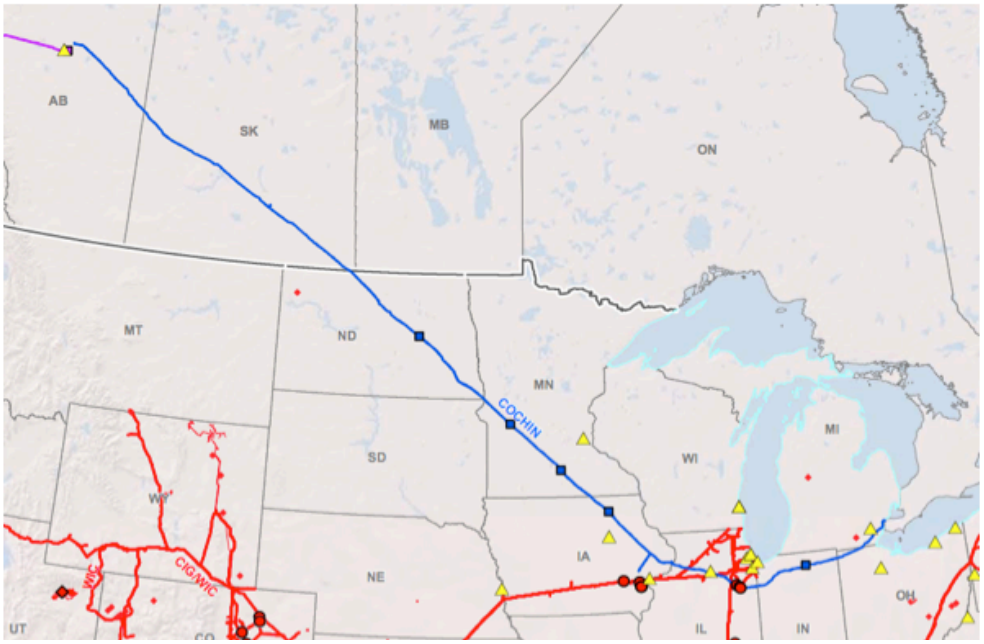
The thin blue line reflects propane inventories during 2013, and the broader yellow zone shows the range of balances over the last 10 years. Figure 3 shows that inventories of propane stored in Midwestern states throughout 2013 were at the bottom of the range of historic propane balances and fell significantly after the heavy and late crop drying season.

Figures 1, 2 and 3 illustrate that a large amount of unused pipeline and storage capacity was available in 2013 and that propane distributors and marketers chose to maintain supplies at levels below average throughout 2013, leaving them vulnerable to what happened in the fall and winter of 2013. While it is difficult to predict the amount of propane necessary for an upcoming harvest and winter heating season, and recognizing that 2013 certainly was an extreme case, it is clear that in 2013 propane market participants chose not to fully utilize storage facilities in the Midwest, and chose not to utilize available pipeline capacity to stage propane inventories farther into the distribution chain (and thus closer to their propane customers) prior to the winter.

Pipeline Reversals

Some are asking whether plans to reverse the flow direction of the Cochin pipeline will adversely affect propane supplies across the upper Midwest. The answer is no. Local demand for propane from the Cochin line has dropped precipitously in recent years. There is more than sufficient unutilized capacity in other nearby propane pipelines to make up the difference. Historically, the Cochin pipeline delivered light natural gas liquids from Alberta, Canada, down through North Dakota, Minnesota, Iowa and Illinois before looping south of Lake Michigan and extending into Indiana, Michigan and eventually Ontario, Canada. The 1,900 mile 12-inch diameter pipeline has an estimated system capacity of approximately 50,000 barrels per day operated with 31 pump stations and five U.S. propane terminals along its route.

Cochin Pipeline Route (in blue)



While Cochin was successful initially, the North American energy production boom changed shipping and market dynamics, reducing the U.S. demand for propane imported from Canada. Propane is a natural by product of oil and gas production. When oil or gas is produced, it comes out of the

ground mixed together with other natural gas liquids such as propane, ethane and butane. Greatly increased oil and natural gas production in the Bakken fields of North Dakota, the Eagle Ford and Permian fields of Texas, the Marcellus shale region of Pennsylvania and other production areas across the U.S. has resulted in increased U.S. supplies of propane. The EIA recently reported that U.S. propane production topped 1.4 million barrels per day, higher than any time in the last ten years, as Figure 4 illustrates.

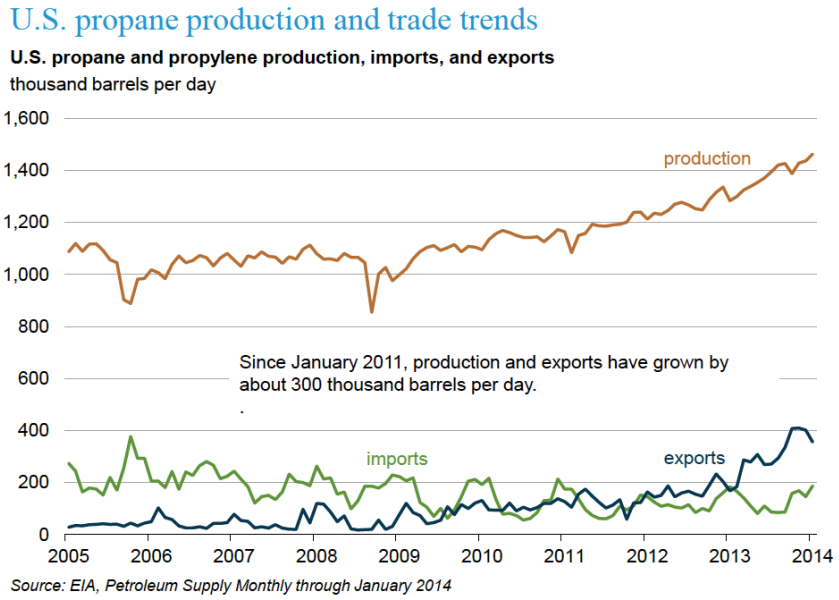


Figure 4

U.S. propane customers turned away from importing supplies of propane from Canada and began to purchase additional supplies of plentiful, less expensive U.S. propane instead. The result, as reported by the Minneapolis *Star Tribune*, is that the Cochin pipeline has been operating at only 22 percent of its annual capacity.[5] Figure 4 illustrates how the Cochin pipeline ran at nearly 60 percent of its capacity in 2000, but utilization steadily declined until it was running at only 22 percent of capacity in recent years.

[5] David Shaffer, "Propane Industry Scrambles to Replace Supply from Major Pipeline," *Star Tribune*, Dec. 7, 2013.

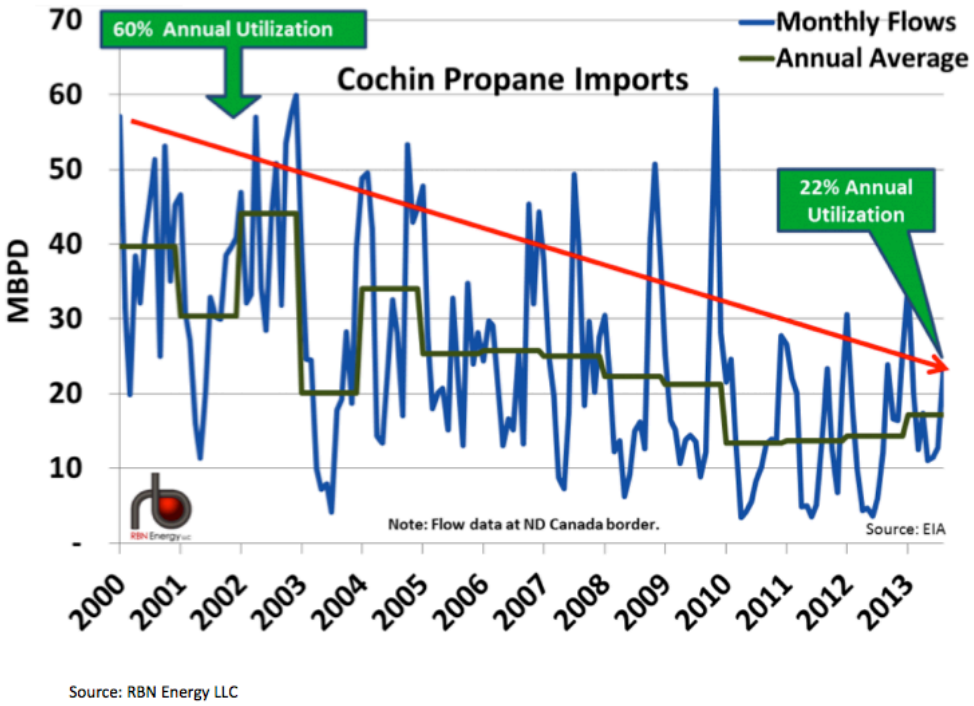


Figure 5

With the Cochin pipeline so underutilized by propane customers along its route, the operator of the Cochin pipeline decided to reverse the flow of the pipeline to capture new market demand for U.S. natural gas liquid deliveries to Canada.

The MAPL West Blue propane pipeline into Minnesota itself has almost 12 million barrels of unutilized propane capacity each year. Thus, even with the Cochin pipeline converting from southbound propane service to northbound diluent service, propane pipeline infrastructure in the region is ready and able to handle Midwestern propane supply demand, if the propane industry chooses to utilize these pipeline systems ahead of winter.

Avoiding Propane Shortages in the Future

Decisions about shipping propane and filling downstream storage are complex and involve many factors best explained by propane market participants. It is clear, however, that with increased utilization of existing storage and pipeline capacity, propane market participants could mitigate future

supply concerns. The pipeline industry stands ready to accommodate any changes in supply planning patterns supported 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. 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 for pipelines and caused concerns about supplies in Georgia, the Carolinas and mid-Atlantic, pipeline operators worked with government at all levels to return pipelines to service. These rare crises demonstrate the importance to Americans of maintaining a robust and reliable pipeline network.

Pipelines Are the Safest, Least Expensive Energy Transportation Infrastructure

Pipelines are the least expensive, most reliable, and 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 liquids transported by pipeline reached their destination safely. As an example of the safety of pipelines compared to other transportation modes, 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. Denying the Keystone XL Presidential Permit and 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.

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.

While pipeline infrastructure is the safest mode of energy transportation, liquids pipeline operators remain focused on continuous improvement with the ultimate goal of zero incidents. Pipeline operators are undertaking a number of industry-wide initiatives to improve pipeline safety performance. In 2012, pipeline operators adopted a set of industry-wide safety principles, including the goal of zero incidents. Industry-wide, operator-led safety groups continue to develop new recommended practices and safety improvement tools.

In 2014, the liquid pipeline industry launched the *Performance 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. Pipelines are also the most cost-effective form of energy transportation infrastructure and the ideal method of transporting large volumes of energy across the country.

Importance of New Pipelines

One essential element to assure continued sufficient supply of energy liquids is adequate pipeline capacity, including the building of new pipelines. AOPL members have been responding to the North American energy revolution by making substantial investments needed to link new supply sources to refining and consuming markets. Pipeline operators have been constructing new pipelines, reversing pipelines, converting underutilized pipelines from one type of product service to another, and expanding the capacity of existing pipelines by adding horsepower to pumping stations. 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[6]. These new pipelines are enabling Americans to access

[6] Annual Report Mileage, U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration,

growing production of crude oil from Texas to Alberta, growing production of natural gas liquids from North Dakota to Texas to Ohio, and increases in refining and fractionation capacity.

Pipeline shippers play a huge role in assuring the availability of needed pipeline capacity. Most new pipeline capacity projects are supported by long-term agreements between pipeline operators and shippers to assure the viability of proposed pipelines and enable financing. However, most existing pipelines do not have any financial commitments by their shippers; as stated above, the shippers, not the pipelines, choose if, when, and how much volume to transport on the pipelines, and they can freely choose to discontinue the use of a pipeline in favor of another pipeline or an alternate form of transportation. In either case, as transportation service companies moving products for a fee, pipeline operators have every incentive to maximize shipments by their customers. When shippers express their need for service by committing to sufficiently use pipelines, pipeline operators respond.

Government policies also play a huge role in assuring availability of needed pipeline capacity. Thankfully, the Interstate Commerce Act and FERC policies today allow liquid pipeline operators to respond quickly to changing needs by propane and other shippers. FERC needs to continue to honor long-term transportation agreements between pipeline operators and shippers to ensure that needed new infrastructure can be built[7]. 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 grants Presidential Permits for pipeline facilities crossing our national borders.

AOPL appreciates your attention to these issues with this hearing today.

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http://www.phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=d731f5448a359310VgnVCM1000001ecb7898RCRD&vgnextchannel=3b6c03347e4d8210VgnVCM1000001ecb7898RCRD&vgnextfmt=print.

[7] Earlier this year FERC reiterated its long-held policy of honoring transportation service agreements between oil pipelines and their shippers, absent a compelling reason such as a lack of good faith negotiations. *See Seaway Crude Pipeline Company LLC*, 146 FERC ¶ 61,151 (2014).