STATEMENT OF MELANIE KENDERDINE

DIRECTOR OF THE OFFICE OF ENERGY POLICY AND SYSTEMS ANALYSIS

AND ENERGY COUNSELOR TO THE SECRETARY

U.S. DEPARTMENT OF ENERGY

Before the

SENATE COMMITTEE

ON

ENERGY AND NATURAL RESOURCES

HEARING

"*Short on Gas: A look into the propane shortages this winter.*"

MAY 1, 2014

Thank you Chair Landrieu, Ranking Member Murkowski, and Members of the Committee. I appreciate the opportunity to be here today to discuss the Department of Energy's response to the propane shortages in the Midwest and New England this winter. I am the Director of DOE's Office of Energy Policy and Systems Analysis as well as the Energy Counselor to the Secretary.

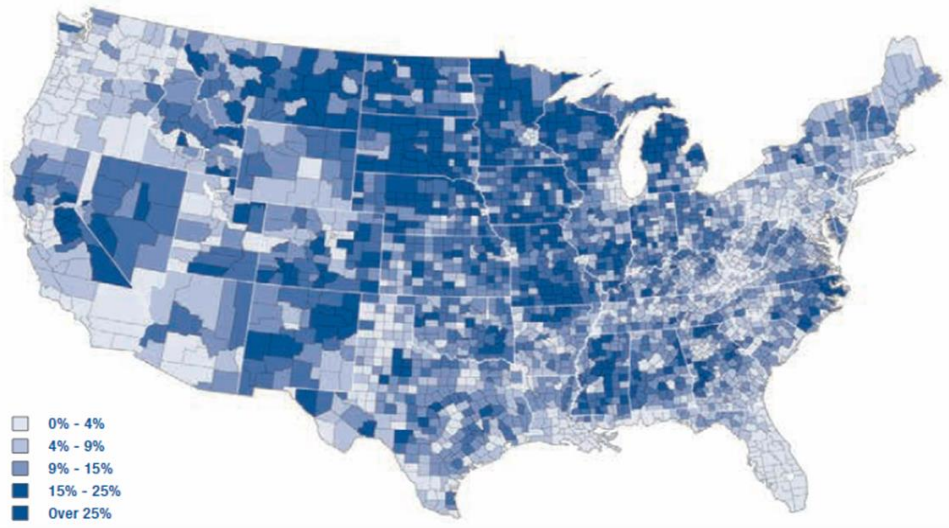
Madam Chair, Senator Murkowski, as you know, during this past winter extremely low energy supplies in three major regions of the nation (the Midwest, the Northeast and parts of the South) created public health and safety dangers and caused extensive disruption to some businesses. I will focus my remarks today on propane problems in the Midwest.

Let me first note that the Obama Administration was deeply engaged in responding to this crisis and took our responsibilities in this regard very seriously. We rapidly identified possible agency actions to address this crisis, implemented a range of actions identified by several agencies and state officials, had daily calls among agencies, states, and the private sector to track the crisis and the progress of the actions we took, and maintained constant situational awareness. I will discuss these actions in greater detail below.

Propane Use in the US

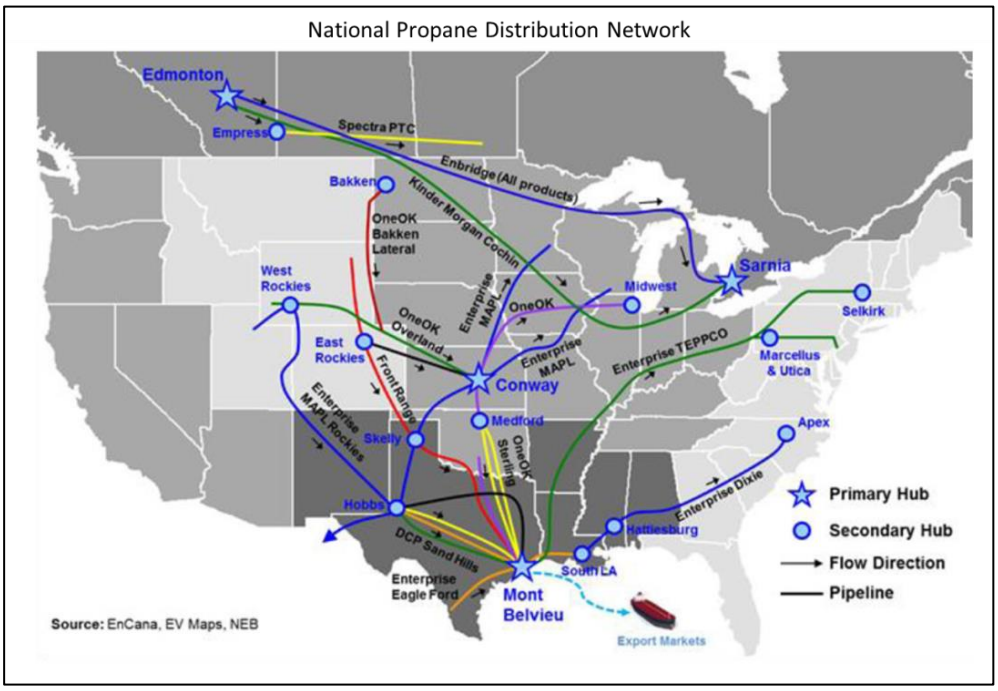
Propane use is a relatively small component of national energy consumption by energy content (1.7 percent in 2012). About 65 percent of propane is consumed in the industrial sector (including feedstocks and agriculture), roughly 2-3 percent for transportation with the remaining 32 percent used in the residential and commercial sectors. Propane is however a critical fuel for homes where it provides heating, serving roughly 5.5 million homes, largely in sparsely populated rural areas where energy infrastructures is more capital-intensive because of the distance between consumers. About half of these homes are in the Midwest and the Northeast (36 percent and 14 percent respectively).

Propane's market share of home heating market by county in 2011



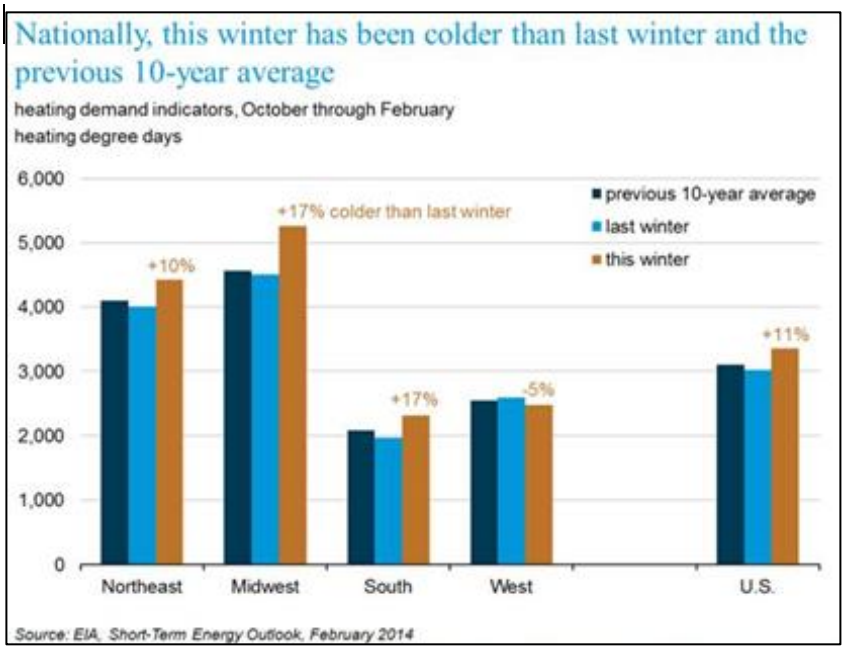
Source: ICF Consulting, Inc., 2013 Propane Market Outlook: Assessment of Key Market Trends, Threats, and Opportunities Facing the Propane Industry Through 2020.

Within PADD 2 (the Midwest) which has the highest percentage of residential propane use, propane is used to heat 7 percent of residential homes. Propane is used for residential heat in 4 percent of residences in PADD 1 (the East Coast).



The propane market is highly fragmented; 30 percent of the retail propane distribution market is held by three firms, with the remaining 70 percent market share held by another 3,500 firms. This fragmentation creates challenges for information awareness, data collection, and risk management. Bulk propane is typically delivered to centralized storage locations via rail, common carrier pipeline and truck. Propane is further delivered to local distributors by truck and then from these local distributors to residential consumers, also via truck. A large percentage of propane is delivered to the upper Midwest via pipeline.

Contributors to the Crisis



As we know, in the winter heating season of 2013-2014 there were propane shortages, propane price spikes, record low inventories, and delivery limitations. Shortages were most acute in states at the tail end of distribution networks, and retail prices were highest in Iowa, North Dakota, South Dakota, and Minnesota in the Midwest; and Rhode Island and Vermont in the Northeast. A confluence of unusual events contributed to a severe

situation in the Midwest, resulting in significant negative consequences for residential and agricultural customers.

Weather

There was also an unusually late and larger than normal use of propane for drying a large and wet corn crop, one of the major uses of propane in the Midwest. This larger than expected demand strained propane supplies going into the winter and reduced inventories at distribution terminals in the upper Midwest. No special refill measures were taken to replenish supplies that were depleted by crop drying demand, most likely due to NOAA forecasts and the relatively mild weather of the previous winter.

This was followed by a cold winter. It is important to note that actual temperatures were markedly different from expectations. NOAA did not forecast an unusually cold or intense winter, and the previous winter had been relatively mild; NOAA did indicate colder than normal winters might occur in "a small swath of the Northern Plains from northeast Montana into parts of the Dakotas and Minnesota." It also indicated "above-average temperatures in the Southwest, the South-Central U.S., parts of the Southeast, New England and western Alaska." As of March 6, 2014, compared to the previous winter, the Northeast was 13 percent colder, and the Midwest and South were 19 percent colder. The cold in these regions came early and persisted for an extended period of time

Market Conditions, Industry Practice

Throughout the buildup to the 2013/2014 winter heating season, propane spot prices were higher than in prior years and futures prices were significantly backwardated[1]. This discouraged market participants from building propane inventory. Also, approximately 60 percent of residential propane retail deliveries were conducted under fixed-price winter heating season contracts in the $1-$2/gallon gas range. This market structure generally serves both consumers and suppliers well under earlier normal market conditions. However, in light of developments this winter and high wholesale prices, suppliers were quickly exposed to significant price and supply risks.

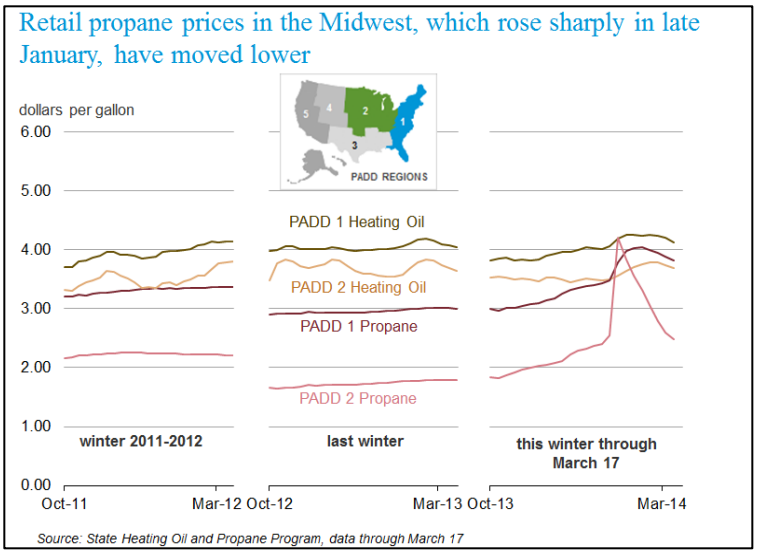
Infrastructure Issues

The Cochin pipeline, which historically has supplied propane from Canada to the Midwest, was offline for maintenance in late 2013. The closure of the Cochin pipeline for part of November and December 2013 was important because it reduced opportunities to refill propane stocks during the interim time period between crop drying and the onset of peak winter season. Additionally, the Hess natural gas processing and fractionation facility in Tioga, ND was offline due to expansion work. These outages were publicized before they occurred, but as noted, propane re-supply was challenging.

[1] Backwardation - A market where the price for nearby delivery is higher than for further forward months. The opposite of backwardation is contango

Large draws on storage for crop drying use were not replaced before the onset of cold winter weather because market conditions did not support building inventory. The low inventories combined with cold weather were key physical triggers of events. Resupply was made more difficult by the temporary closure for maintenance of the Cochin pipeline and the inability to reverse flow on other pipelines that flow north to south, moving propane from the Midwest to the U.S. Gulf Coast. However, the significant flexibility of the trucking distribution system, especially the effective Department of Transportation (DOT) actions to exempt truck drivers from certain restrictions, proved key in facilitating propane resupply to the Midwest during the height of the shortages. The Federal Energy Regulatory Commission's (FERC) action to prioritize pipeline movement of propane during the height of the shortage added flexibility that was not available normally.

Consumer Impacts and Commercial Responses



According to EIA data, between December 2013 and January 2014, residential propane prices in the Midwest more than doubled from an average of $2.08 per gallon on December 2, 2013, to $4.20/gal on January 27, causing significant hardships to propane consumers. By February 3, prices had dropped to $3.83/gal and by March 3 to $2.78/gal.

Propane prices at Mont Belvieu, TX and Conway, KS, the major propane trading hubs on the U.S. Gulf Coast and in the Midwest, respectively, have historically been within pennies of each other. In late January the price of propane at Conway reached a record $2.97/gal above the price at Mont Belvieu. This differential sent a strong signal to producers and distributors, and market participants responded by moving additional supplies northward via pipeline (but also via truck from Mont Belvieu to the Midwest). High prices in New England also attracted incremental global supplies via ship.

DOE Authorities

DOE's authorities to deal with this type of crisis are limited. The most relevant statutory authority is the Defense Production Act (DPA), which grants the President the authority to prioritize contracts deemed "necessary or appropriate to promote the national defense," as well as the authority to prioritize contracts necessary to maximize domestic energy supplies. DPA authorities have been delegated to multiple agencies by the President, including DOE and the Department of Commerce (DOC). These authorities overlap with the FERC's

authority to prioritize certain pipeline shipments under the Interstate Commerce Act, and with the Surface Transportation Board's authority to prioritize rail shipments under the ICC Termination Act of 1995.

DOE does however, have extensive interagency coordination responsibilities through its roles as the Sector Specific Agency as outlined in Presidential Policy Directive (PPD)-21, the Emergency Support Function-12 (ESF-12) in support of the National Response Framework, and through the information and expertise it provides to the National Preparedness function as outlined in the PPD-8.

These activities focus on a range of efforts from preparedness to long term recovery from incidents or events. While engagement with industry addressed policies, practices, and procedures to enhance the reliability, security, and resilience of their systems, anti-trust laws limit the types of discussions surrounding market issues. During this propane event, DOE was intensely engaged with industry via daily calls with associations and one-on-one calls with specific companies.

Timeline of Actions

As I noted earlier, there was a rapid and coordinated response by Federal agencies that included DOE, DOT, FERC, the Environmental Protection Agency, DOC, the Department of Labor and the Department of Health and Human Services. Federal actions included data collecting and dissemination (DOE) in order to help inform and prioritize Federal and state response actions, issuing hours of service waivers for truck transport (DOT), prioritization of propane pipeline shipments (FERC), and acceleration of Low-Income Home Energy Assistance Program (LIHEAP) funds availability (HHS).

Several offices in the Department of Energy were engaged in responding to the crisis, including the Office of Electricity Delivery and Energy Reliability (OE) and its sub-office the Office of Infrastructure Security and Energy Restoration (ISER), Office of Fossil Energy (FE), the Energy Policy and Systems Analysis Office (EPSA), the Energy Information Administration (EIA) and the Office of the Secretary. During the crisis, DOE's Energy Response Organization[2] (ERO) was activated. This organization played a key data gathering and reporting role and regularly reached out to States, industry, Interagency and intradepartmental partners. Starting in January, 2014, the ERO Communications and Situation Reporting Team issued 19 Spot Reports and two comprehensive analysis reports, and provided inputs to three Congressional Staff updates, and two briefs for the Department's senior leadership; it also generated daily consolidated situational reports. The DOE ERO Energy Restoration Team, comprised of industry, interagency, and DOE representatives, held daily calls with States, industry associations, and Federal partners.

[2] The DOE ERO resides in the Office of Electricity Delivery and Energy Reliability (OE) managed by the Infrastructure Security and Energy Restoration (ISER) Division, with support from OE's Energy Infrastructure Modeling and Analysis Division (EIMA), as well as, DOE Energy Information Administration (EIA), Fossil Energy (FE), Energy Policy and Systems Analysis (EPSA), General Counsel (GC), Congressional and Intergovernmental Affairs (C-IGA), and Public Affairs (PA), among others.

These calls served several purposes: to inform senior leadership about the propane situation, to identify federal assistance where appropriate, to share information with the states, particularly data on product availability, and to inform federal efforts to address the situation.

The following timeline shows DOE's involvement during the propane crisis:

- November 2013 - Crop drying tightens markets to lowest propane stock in PADD 2 in five years;
- November-December 2013 – The Cochin Pipeline was taken offline for maintenance.
- November 2013 - DOE's Office of Infrastructure Security and Energy Restoration (ISER), began participating in conference calls with Midwest and Northeast states regarding propane and home heating fuels constraints in November 2013.
- Mid-December 2013 - There is a large gas storage withdrawal, raising prices on gas supplies from which propane is produced;
- December 12, 2013 - DOE's EIA reports that "propane demand hits a record high for November, when propane consumption hit levels typically seen in January or February when the winter heating season hits its peak…propane inventories in PADD 2 (the Midwest) were at their lowest level for November since 1996
- January 2014 - In early January, the polar vortex affects much of the U.S. The upper Midwest was hit especially hard;
- January 15, 2014 - DOE's EIA publishes a This Week in Petroleum article on the impact of cold weather on propane demand, as Midwest propane markets tightened further on cold weather, noting the continued low temperatures and regional supply disruptions.
- January 27, 2014 - DOE's Energy Response Organization (ERO - managed by OE) is activated to an Enhanced Watch/Monitor posture to determine industry and state actions and assess if there are any requests for DOE assistance. The Situation Report Team begins issuing daily internal reports and holding regular calls with industry associations and States.
- January – March 2014 - DOE participates in phone calls with Midwest State energy offices on January 10, 17, 24 and 29, February 5, 12, 21, 28, and March 14 to share information on Federal actions and to obtain information on propane supply issues and State actions.
    - Information from these calls and other calls with state officials is shared on daily interagency coordinating calls, including with the White House, which commences on January 27 and continues daily throughout February and early March.
- January 31, 2014 - DOE's EIA issues its first Propane Situation Report.
- February 5, 2014 - DOE's EIA issues its second Propane Situation Report.
- February 2014 - In early February the National Propane Gas Association petitions FERC to use its prioritization authorities.
- February 6, 2014 - DOE and FERC staff discusses prioritization authorities and DOE offers to intervene with FERC in support of its use of this authority.

- February 7, 2014 - FERC utilizes its prioritization authorities on the Enterprise TEPPCO products pipeline after discussion with other agencies;
- Late February/early March 2014 - The spread between Conway and Mont Belvieu spot propane prices starts to narrow;
- February 26, 2014 - DOE's ERO deactivates, though DOE staff remain in close communication with State, industry, and Federal partners. Calls to all stakeholders continue until improvements in both supply availability and moderating prices persisted. The final spot report is issued.
- March 12, 2014 - DOE's EIA issues its third and final Propane Situation Report.

DOE also led the following actions:

- Conference call with Governor's offices and numerous individual calls to Governor's offices
- Senate and House briefings: January 28 (EIA, OE), March 3 (EIA)
- Senate Briefing: January 31 (WH, FERC, DOT, EIA, OE)
- Calls to large scale marketers, wholesale retailers, dealers, pipeline companies, and associations.

Lessons Learned and Next Steps

DOE's focus on data and communication provided critical feedback loops for actions taken, their effectiveness, and critical information to states, localities, distributors and other industry actors. The immense flexibility of the trucking distribution system, especially with the effective DOT actions to exempt truckers from certain restrictions, was a key element in supplying the region during the height of the shortages. Also, FERC's action to prioritize pipeline movement of propane during the height of the shortage added flexibility.

The small and fragmented nature of propane markets and the limited availability of granular information, however, limited situational awareness and could have hindered potential emergency responses. In order to address these challenges, EIA will offer funding support for States to participate in the State Heating Oil and Propane Program (SHOPP). The State Energy Offices that collaborate with EIA to conduct this survey use the aggregated data to monitor the heating fuel markets in their States as well as to develop and maintain programs that provide financial assistance for heating costs to low-income residents. At least eight additional states have expressed interest in participating this coming winter. DOE has the capability to develop enhanced data gathering and analysis capabilities for this market segment.

Associations, including the National Association of State Energy Officials and the National Gas Propane Association, are hosting lessons learned meetings to identify steps that forward to prevent shortages from happening in future years. OE is planning to conduct regional exercises with states on their Energy Assurance Plans and how these plans can best prepare states to respond quickly in a crisis situation, such as the propane crisis. In addition, Secretary Moniz

asked the National Petroleum Council to conduct a study on emergency preparedness to enhance industry and government capabilities for addressing natural disasters that have the potential to disrupt the delivery of natural gas, propane, and other fuels to consumers. Looking to the future, the Quadrennial Energy Review, launched by President Obama in January of this year, will address energy infrastructure. In particular, it is focused on energy transmission, storage, and distribution (TS&D) infrastructure, and will include regional fuel resiliency studies, inspired in part by the propane situation as well as by the aftermath of Hurricane Sandy.

As our review and surveillance of last winter's propane problems for the Midwest found, propane transmission pipelines, storage, and distribution all played roles in the challenges and solutions to the events that occurred. In looking at TS&D infrastructure, the Department will consider the challenges of the propane markets as each of these infrastructure elements played a role in the challenges and solutions to the events that occurred this past winter.

On April 21, 2014, DOE, acting on behalf of the Interagency QER Task Force, held a QER public meeting in two locations in New England: Providence, RI and Hartford, CT. Secretary Moniz, elected officials, more than 20 invited panelists, and members of the general public participated in the meeting. A key topic discussed at the meeting was the recent propane shortage in New England. Representatives of the propane industry gave presentations and participated in the initial panel discussion. These representatives provided important perspectives and suggestions about how to address the New England propane situation in future years. Their written statements are available at the DOE website at www.Energy.gov/QER. DOE will also hold meetings in North Dakota, Chicago, and other Midwestern locations, where it will hear from stakeholders on rail, barge and truck transport of fuel. Propane and related issues will also be a major topic of discussion at these meetings.

The first QER will examine transmission, storage and distribution infrastructure, specifically assessing its reliability, flexibility, and affordability in order to make policy recommendations including executive and legislative actions as appropriate, priorities for research and development investments, and identify analytical tools and data needed to support further policy development and implementation. These recommendations will help ensure America has an infrastructure that can enhance U.S. economic competitiveness, environmental performance, and energy security.

Conclusion

Madam Chair, Ranking Member Murkowski and Members of the Committee, I appreciate the opportunity to discuss these important issues. Please be assured that should conditions that tend to threaten propane supply arise during future winter seasons, the Administration and appropriate Federal agencies will work aggressively and swiftly to ensure that we address the needs of the American public. I would be happy to answer any questions you may have.