

# Michigan SHOPP

Energy Data and Security Section  
Michigan Public Service Commission  
10-2-2014



MICHIGAN PUBLIC SERVICE COMMISSION

# Energy Data and Security

- Energy assurance / emergency preparedness
- Monitor State's energy supply
- Energy forecasting and statistical analysis
- Critical infrastructure protection
- Cyber Security
- MPSC website operations



# Energy Market Monitoring

- Monitoring Sources
  - Oil Daily – Platts
  - Energy Assurance Daily – DOE
  - Oil Price Information Service – OPIS
  - EIA
    - This Week in Petroleum, Today in Energy
    - Short-term Energy Outlook (STEO)
  
- SHOPP



# SHOPP Report

- Program Participation
  - PSC not EO
  - 20+ year involvement
- Data Collection
  - Two analysts conduct survey
  - Data reported to EIA, aggregated and posted to MPSC website
- Program Benefits
  - Public education
  - Relationships built and knowledge of local markets gained
  - Improved awareness and response

## Michigan Residential Heating Oil and Propane Price Survey

2013-2014 SHOPP Report

### Winter Snapshot

The 2013-2014 winter heating season was an unfortunate confluence of events that resulted in an historic regional propane emergency. Numerous Midwestern states declared energy emergencies and over 30 states sought hours-of-service (HOS) waivers. For Michigan, the acute phase of the crisis began in late December 2013 and continued into early March 2014. The prime factors leading to the emergency included:

*Low Pre-Season Inventories* – Inventories ended the 2012/2013 season about 3 million barrels or 20 percent below the five year average. This led to propane inventories beginning the 2013 winter season (Oct.), 8 million barrels below the previous year.

*Crop Drying Demand* – Propane use for crop drying soared almost 500 percent for the agricultural industry last year. This was due to a record corn and soybean crop harvested late in the season, and complicated by above average rainfall during harvest time. As farmers throughout the Midwest began drying their crops, a significant draw down in inventories occurred. As a result, supply shortages for residential customers quickly developed as severe winter weather loomed.

*Colder than Normal Weather* – A late and significant drawdown of propane inventories was exacerbated by the early arrival of winter weather. The resulting increase in demand shortened the window to restock inventories in preparation for the season. Further complicating matters, the 2013/2014 winter heating season (October – March) turned out to be one of the coldest in years, 14 percent colder than normal, which strained the already low inventories.

### Highlights

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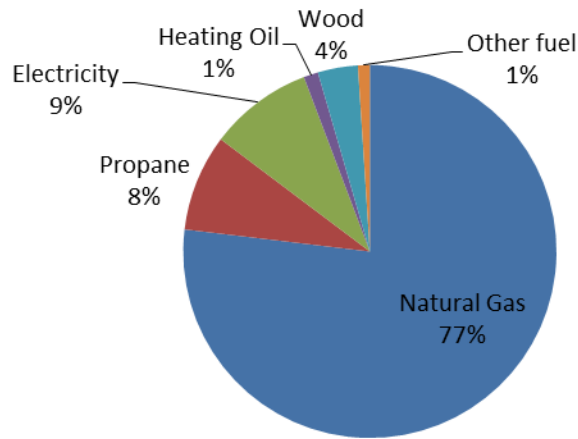
- Michigan's "Winter Heating Season" (Oct. – March) was 14% colder than normal.
- Low inventories, high prices, and extreme winter weather led to a state of energy emergency for Michigan.
- Over 30 states declared states of energy emergency and implemented hours of service waivers.
- Propane prices averaged 28% higher than the 2012/13 winter season.
- Heating oil prices averaged 2% lower than the 2012/13 winter season.
- U.S. propane stocks ended the season (March 28, 2014) 24% below the 5-year average for that period.



# Michigan Propane Demand

- More Michigan households use propane for home heating than any state in the US. ~8.3%.

**MI Residential Home Heating**



	Households	Percentage
<b>Natural Gas</b>	2,931,318	76.5%
<b>Propane</b>	319,698	8.3%
<b>Electricity</b>	341,965	8.9%
<b>Heating Oil</b>	47,991	1.3%
<b>Wood</b>	132,347	3.5%
<b>Other fuel</b>	39,038	1.0%
<b>Total:</b>	<b>3,832,466</b>	

\*2013 American Community Survey, US Census



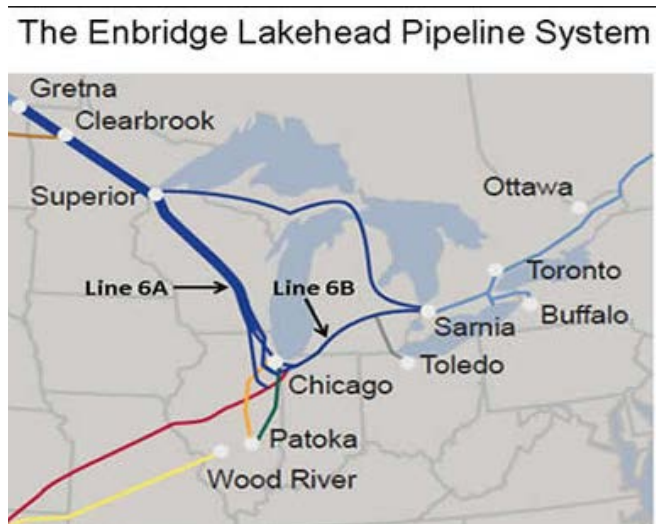
# Propane crisis in MI?

- Limited supply, low inventories, high prices..
- Propane dealers/suppliers
  - Short-fills / No new customers
  - Cancelled contracts by wholesalers (force Majeure)
  - Financial distress / Out of business
- Regional in-state price disparities
- Infrastructure Issues



# 'continued

- Rapid River terminal offline (~1 million gallons)
- CN rail issues at Kincheloe terminal



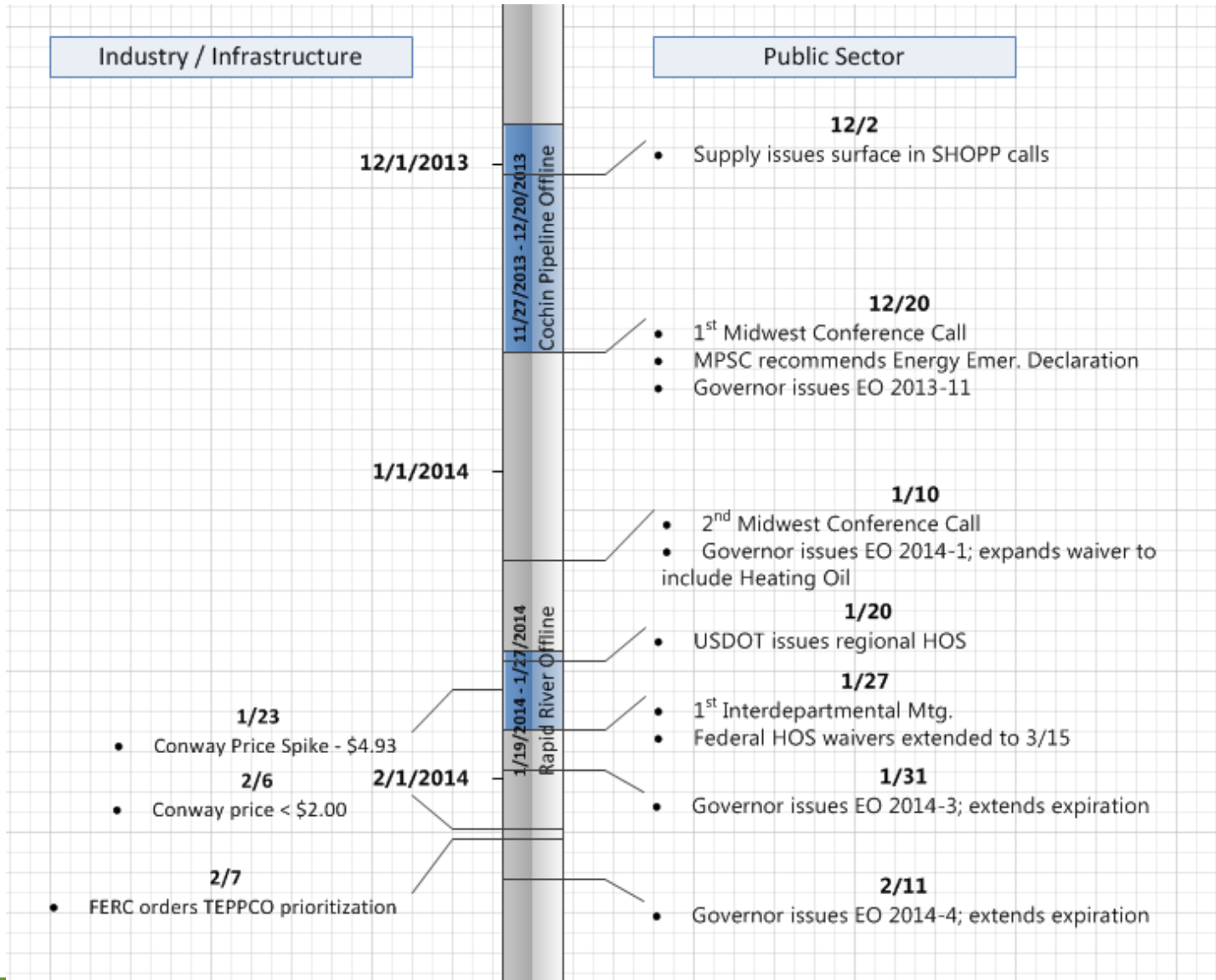
# How did the MPSC Respond?

- Expanded market monitoring and research
  - Developed maps of survey sites
- Held weekly calls with other States, industry, DOE, FERC, Homeland Security, FMCSA, etc.
- Developed policy recommendations, including declaration of energy emergency and HOS waivers





# Crisis Timeline (MI perspective)



# State of MI Response

- Declaration of Energy Emergency (Governor)
  - Establishment of Hours of Service Waivers
- Investigated shortages at critical facilities in Upper Peninsula (UP)
- Worked with railways (CN) to increase shipments of propane to MI.
- Petition to enact a temporary waiver of weight limits on the interstate highway system.
- Additional \$7 million to deliverable fuel assistance via LIHEAP.
- Facilitated fuel wood permitting in UP.
- Established loan program to assist propane dealers struggling with liquidity issues.



# How we use SHOPP

- Expand scope of inquiry beyond price. Survey respondents about:
  - Supply shortages
  - Terminal wait times
  - Delivery issues
- Broadened survey to include additional suppliers
  - Random selection based on geography
  - Generally receptive; 75% participation





# Things we did this summer

## (Alex and Robin Roadshow)

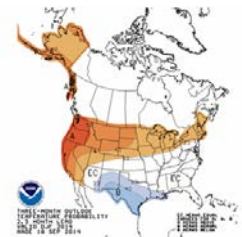
- MPGA Outreach (education and promotion)
  - Midwest Propane Conference
  - MPGA Annual Conference
- Infrastructure / Facility Tours
  - Enbridge Pipeline pumping station
  - Rapid River terminal/fractionator (Plains Midstream)
- Consumer Outreach
  - PSAs, [michigan.gov/propane](http://michigan.gov/propane), etc.

Midwest Inventories



Winter Weather  
(Dec/Jan/Feb forecast - NOAA)

- 33% chance winter is warmer than normal.
- El Nino - Warmer than normal surface temperature in Pacific Ocean
  - 70 percent chance of warm winter
  - Indicators are of small el Nino
- Polar Vortex is still lurking



# What did industry do?

- Customer Outreach
  - Early fills, price cap, lock-in rate, budget plans
- Inventory Builds
- Diversification of propane sources
  - Increased rail shipments and terminals
  - Increased reliance on pipelines
- Expanded storage capacity in the field, at distribution terminals and by local distributors



# SHOPP Participant Feedback

- **What price do you want????**
  - Ensure SHOPP prices collected are consistent
  - Marketers offer different varieties of pricing options.
- Monday is worst day to receive SHOPP calls.
- Refresh participant list more frequently.
- Some would prefer automatic data entry
  - Allow ability to standardize supplemental questions.



# Requests of EIA/SHOPP

- Daily wholesale market prices (Conway)
- Improved propane infrastructure information (pipelines, terminals, storage, etc.)
- Expand MI SHOPP survey
  - More survey respondents (propane)
  - Expanded geographic area
- Share state level inventory and 782c data





# SHOPP Tips

- Have experienced staff conduct surveys
- Get to know your state's suppliers and market associations.
- Understand your petroleum system
  - Maps of infrastructure (pipelines, terminals, etc.)
  - Consumer behavior (pre-buys, average usage, etc.)
- Don't be afraid to ask for help (EIA/DOE, NASEO)
  - Marcela, David, Jeff, Alice, EEAC cohorts



# Alex and Robin Roadshow 2014 Summer Tour

- Columbus, OH
- Crystal Mountain, MI
- Escanaba, MI
- Okemos, MI
- Washington, D.C.



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