UP Energy Task Force Presentation

July 9, 2019



Statewide Energy Assessment Impetus





Photo Credit: Todd McInturf/Detroit News via AP

Photo Credit: Blake Clark/UPI

The Changing Landscape Factors Driving Change



Weather and Emergency Events



methods of measurement since 1960 including fastest 1 minute, peak wind, maximum 5 second and maximum 3 second

Charge from the Governor



Governor Whitmer requested that the Commission review the supply, engineering, and deliverability of Michigan's natural gas, electricity, and propane and evaluate if the systems are adequate to account for changing system conditions and extreme weather events, and to identify recommendations to mitigate risk and ensure safe, reliable energy.

The Statewide Energy Assessment investigated six separate sectors:

- Electric
- Natural Gas
- Propane
- Cybersecurity
- Physical Security
- Emergency Preparedness

SEA Process

- 1 Webpage
- 5 Work teams
- 36 Staff
- 40+ Stakeholders
- 40+ Stakeholder interviews/ meetings/calls

MPSC

MPSC Statewide Energy Assessment (SEA)

Michigan experienced historically extreme cold weather from January 29, 2019 to February 1, 2019 due to a polar vortex. During this time, Consumers Energy asked natural gas customers to reduce usage and lower thermostats after a fire at its largest natural gas storage facility. In addition, both Consumers Energy and DTE Electric were called upon to ask their electric customers to curtail electricity usage to respond to regional constraints in electricity production across the Midwest. These events prompted the Governor to send a letter requesting the Michigan Public Service Commission to undertake a statewide review of the supply, engineering, and deliverability of natural gas, electricity, and propane systems, as well as contingency planning related to those systems.

On February 7, 2019, the MPSC issued an order in case number U-20464 to implement the Governor's request. The initial report will be filed in the docket on July 1, 2019. Thereafter, and following examination of that initial report, the Commission will issue a final report by September 13, 2019. Interested parties will be given an opportunity to comment before the final report is issued.

Questions? Contact Lynn Beck

Sign up for the SEA email list for updates

SEA Workgroup Workplans: Electric, Natural Gas, Propane, Cyber & Physical Security, Emergency Preparedness Sector Questions: Electric, Natural Gas, Propane, Emergency Management

Background

Feb 4, 2019: Feb 7, 2019:	The Governor's Letter requesting MPSC conduct an Energy Assessment. MPSC issued an order in case number U-20464 to implement the Governor's request					
Tasks						
Feb 12, 2019:	Commission seeks comments on draft outline					
Feb 19, 2019:	Comments on draft outline to Lynn Beck. Note: comments should be limited to the task at hand; should identify any essential information that the draft outline fails to include or contemplate, or areas that warrant clarification.					
	For information how to submit comments, please click here.					
Mar 5, 2019:	Staff issues final outline for Energy Assessment report					
Mar 25, 2019 Mar - April, 2019: July 1, 2019:	Target date for sector question responces SEA workgroups: Meeting and data gathering Draft Energy Assessment report due with public comment period TBD					
Sep 13, 2019:	Final Energy Assessment report due	_				

SEA – Initial Assessment



- Systems are adequate to meet customer needs
- Unique assets help ensure reliable supply and delivery of energy
- Infrastructure is designed and operated to maintain energy supplies and deliver during emergency conditions
- Emergency events could have a high impact on the economy and well being of residents

SEA Identified Vulnerabilities



- Electric system (SEA Ch. 3.4)
 - Aging assets and infrastructure; generation shift and operational considerations, natural gas and electric coordination; transmission connections
- Natural gas system (SEA Ch. 4.3)
 - System limitations; infrastructure failures; interconnections; system redundancy; single source supplies
- Propane (SEA Ch. 5.4)
 - Driver shortages; infrastructure availability; exports; propane market structure; extreme weather
- Cyber and physical security (SEA Ch. 6.4)
 - Security governance; implementation of cybersecurity controls; phishing; third-party risk; human capital
- Emergency Management
 - Lack of consistent reporting requirements, outdated curtailment procedures, tension between gas-fired generation and home heating

SEA Recommendations



The SEA makes 36 Recommendations which include, among others, programmatic improvements, Commission rulemakings, updating modeling and utility tariffs, additional training, improved reporting parameters, and stakeholder engagement.

The SEA also makes 14 Observations which include enhancements at the RTOs/ISOs, interagency/departmental consultations, programmatic development, infrastructure build out, and legislative action.

SEA High-Level Recommendations



- Risk-based integrated natural gas planning
- Integrated electricity system planning
- Valuing resource diversity and resiliency
- Addressing gas-electric interdependencies
- Demand response improvements
- Emergency drills
- Cyber security standards for natural gas distribution utilities
- Propane contingency planning

SEA Next Steps



July 1: Initial Assessment Submitted

Public Comment Period

Aug. 9: Public Comment Closes Sept. 13: Final Assessment Due

MI Energy Landscape - Electricity



Michigan's Evolving Net Generation Mix from 2007 - 2017



MI Energy Landscape – Natural Gas



Michigan's Natural Gas Infrastructure and Resources

- MI is #1 in the country for working gas storage capacity due to our unique geology
 - Michigan natural gas utilitie operate 32 storage facilities with a gas capacity of 294.9 Bcf
 - Notably, all of these storage fields are located in the Lower Peninsula
- 9,215 miles of transmission mair and regulated gathering lines
- 114,865 miles of distribution line
- Access to diverse supplies through various pipelines including Canada, Rockies, Gulf Coast, and Eastern (Marcellus/Utica) production



Map by Tip of the Mitt Watershed Council

MI Energy Landscape – Home Heating





Source: U.S. Census Bureau, 2017 American Community Survey. Other Includes: Coal or coke, Solar Energy, Other Fuels, and No Fuels.

MI Energy Landscape - Propane





MI Energy Landscape - Propane



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Assumptions include: An annual household usage of 1,189 gallons, Kalkaska production rate of 1,050 bpd, Rapid River production rate of 2,000 bpd, and Sarnia production rate of 114,000 bpd (95% of maximum capacity and 69% of output consisting of propane(See footnote 117)).

Sources: Energy Information Administration and American Community Survey.

Notes: Sarnia fractionator is jointly owned and operated by Plains Midstream and Pembina. Propane imports into Michigan may ultimately be consumed elsewhere.

2013-14 Propane Emergency

MPSC Michigan Public Service Commission

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- Late, large, and wet crop harvest increased propane use by more than 450% for crop drying
- Supply disruptions from loss of Cochin pipeline, loss of supply to Rapid River fractionator, rail disruptions, and other issues
- Severe weather (polar vortex) increased demand for propane for heating





2013-14 Propane Emergency



2013-14 Propane Emergency



State responses to Propane Emergency:

- Declaration of Energy Emergency
 - Waiver of Hours of Service rules
- Petitioned federal government for temporary waiver of weight limits on interstate highway system
- Additional funding for LIHEAP heating assistance
- DNR worked with forest products industry to make available additional firewood in UP
- MEDC loan program to assist propane dealers with liquidity issues
- Focus on propane use/ supply by critical facilities (hospitals, etc.) in areas most affected by shortages
- PSAs regarding conservation of energy and safety of backup heat sources
- Worked to increase rail shipments of propane to Michigan
- Attorney General pursued legal actions relating to price gouging
- Research by MPSC to better understand cause of emergency
- Regular communication with state and federal agencies

SEA Propane Survey



As part of the SEA, MPSC Staff conducted a survey of propane industry participants to gather market insights and data. Key findings included:

- Varied customer participation in pre-buy, lock-in price, and other programs
- High percentage of retail company supplies are contracted vs. spot purchased
- Significant concern about the availability of trained transport drivers
- Increased storage capacity as a result of PV13-14 disruptions
- Two-thirds of retail companies have contingency plans for severe supply disruptions

SEA Propane Recommendations



- Create annual retail propane survey to monitor market trends
- Continue to promote use of pre-buy and lock-in price programs to reduce price volatility to customers
- Develop formal contingency plan for supply and delivery of propane in event of supply disruptions
- Comprehensive alternatives analysis is needed
- Work with owners and operators of critical propane assets to ensure availability of propane and NGLs for MI residents
- More accurate accounting of inflow and outflow of propane supply and storage would be beneficial
- State should develop a HAZMAT Driver Training Program to increase number of trained drivers
- Opportunities to boost market reliance by adding diversity of supply and additional infrastructure