



Emergency Planning & Cybersecurity

Wednesday July 10th
3:30-5:00PM



Sample Slide with Bullets

- Alex Morese, Michigan Agency for Energy
- Ben Bolton, Tennessee Office of Energy Programs
- Megan Levy, Wisconsin Office of Energy Innovation
- Shannon Young, Department of Energy (ORISE)

Alex Morese

Michigan Agency for Energy

U.S. DEPARTMENT OF
ENERGY

Energy Assurance Planning in Michigan

Michigan Public Service Commission

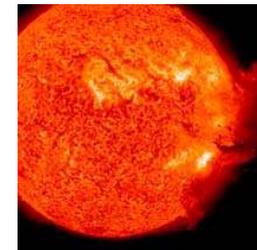
July 10, 2019



What is an Energy Emergency?

An energy emergency is an actual or potential loss of energy supply that may significantly impact the health and welfare of citizens, economic stability, emergency services, or government operations.

1. Severe Weather
2. Natural Disasters
3. Infrastructure Failures
4. Commodity Market Volatility
5. Geopolitical Unrest
6. National Security Events

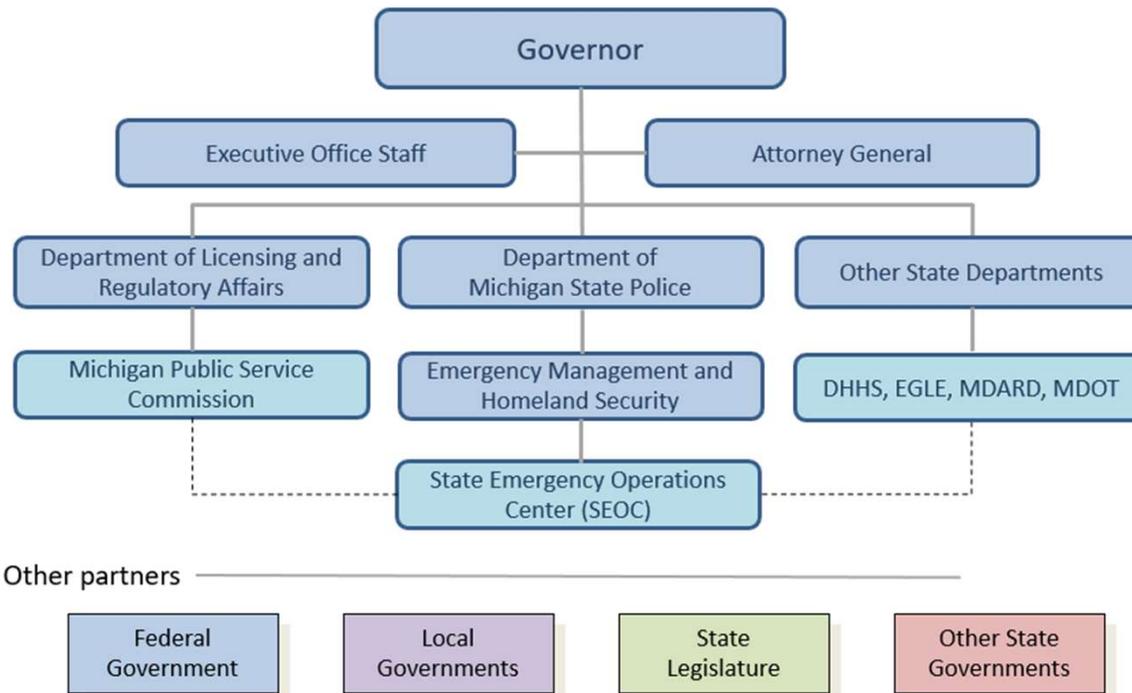


Energy Assurance Responsibilities

- MPSC is lead for Energy Emergencies
 - Monitor energy supply
 - Maintain plans
 - Energy Assurance
 - Petroleum Shortage Response
 - Serve as liaison to industry
 - Provide situation reports
 - Represent ESF 12 (energy) at SEOC
- Michigan Energy Office
 - Partner on energy assurance initiatives
 - Provided \$75,000 in funding for 2019

Co-conspirators

Michigan's Energy Emergency Organizational Structure



Recent Michigan Energy Emergencies

Polar Vortex 19 – January 30, 2019

Weather Conditions

- Temperatures 20 to 20 degrees below average
- Led to increased demand for electric and home heating fuels

Electric Reliability

- Seeing shift in winter usage, more peaks
- Traditional upgrade and maintenance time
- Max Generation Alert - MISO

Ray Compressor Station

- Fire at compressor plant #3 (1 of 3 on site)
- Gas vented at all three stations
- Due to design/wind conditions, ignites and spreads to original fire
- Contributes up to 64 percent of company's daily average of 2.5 bcf of natural gas
- Sits above Consumer's largest natural gas storage area with a capacity of 41.2 bcf



Recent Michigan Energy Emergencies

Anchor Drag in Straits of Mackinac – April 1, 2018

ATC Transmission Lines

- Two 138-kilovolt transmission circuits
- Leak of dielectric cooling fluid (~600 gal.)
- Loss of redundant line between peninsulas

Enbridge Line 5

- Dents in dual 20" petroleum pipelines
- Fear of potential leak, lines temporary shut
- Repaired with protective sleeve



ATB Clyde S VanEnkevort/Erie Trader. (Photo by P. Markham)

Takeaways

Energy Assurance Initiatives

Michigan State Police (MSP) with MPSC

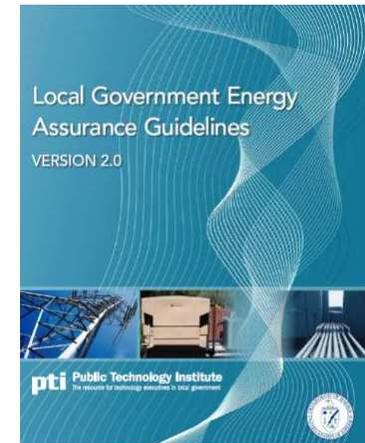
- MSP funded \$750,000 by Legislature
 - 2017 EA Assessment with ICF International
 - Review of energy assurance and petroleum plans
 - Evaluation of health, water, and petroleum sectors
 - Critical infrastructure protection
 - 2019 EA Initiative with Tidal Basin
 - Local energy assurance planning
 - Generator assessments for critical infrastructure
 - Fuel station grant program

Local Energy Assurance Planning (LEAP)

What is LEAP:

A plan to respond and recover from an energy disruption based on a complete understanding of the local jurisdiction. It creates.....

- A general awareness of energy systems and critical infrastructure
- Points of contact with energy suppliers and users
- An understanding of response measures, backup power systems



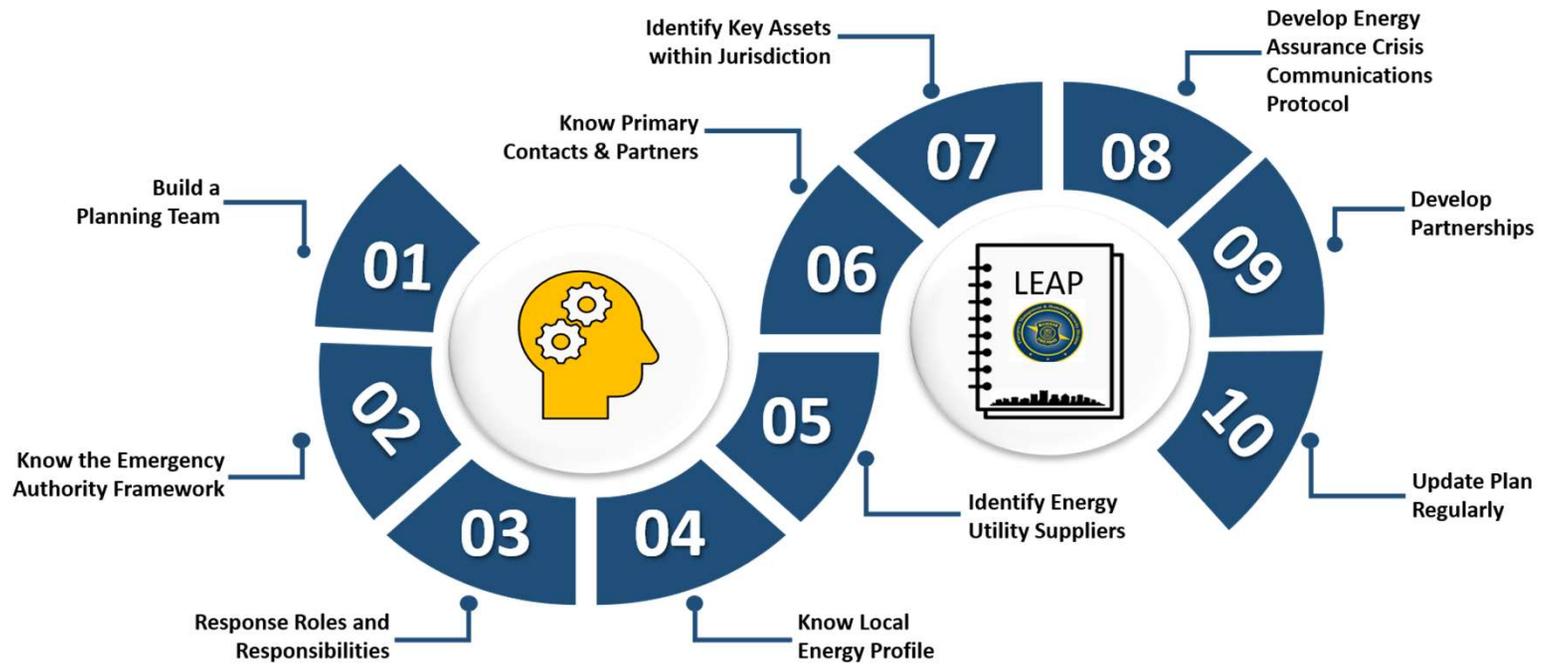
LEAP – Goals and Objectives

Enhance energy resilience at the local level

- Implement 8 regional LEAP workshops
- Establish a web-based toolkit to support LEAP planning
- Develop regionally specific planning templates
- Provide direct support and subject matter expertise to complete at least one LEAP



LEAP Process

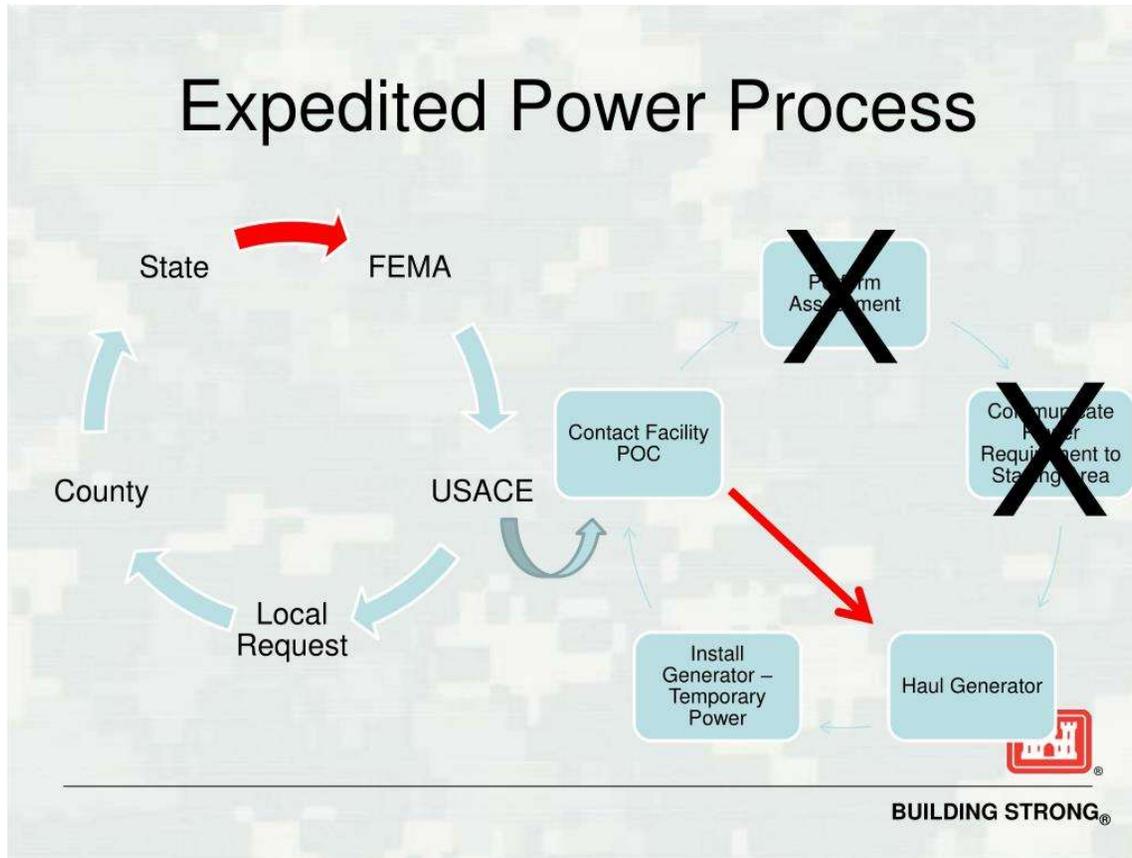


CIP - Generator Assessments

Goal: Determine and enhance emergency power needs and existing back-up power capabilities for critical public infrastructure.

- Evaluation of US Army Corps of Engineers tools
 - Emergency Power Facility Assessment Toolkit (EPFAT)
 - Emergency Power Response Assessment Model
- Utilize EPFAT to catalogue back-up generation capabilities/needs including size, make/model, fuel needs, connection requirements, etc.
- Determine how to securely provide access to CI information to emergency managers
- <http://www.englishlink.usace.army.mil/>

Generator Request



Fuel Station Generator Program

Goal: Provide grants to retail fuel stations and municipal fuel depots to improve resilience to electric power outages

- Research conducted:
 - Existing backup capabilities at fueling stations
 - Other state programs (OR, NY, WI)
- Program options:
 1. Installation of transfer switch (\$3,000)
 - Facilities agree to install transfer switch and associated wiring to operate an electric generator and will make reasonable efforts to remain open to dispense fuel to the public and emergency services in times of emergency.
 2. Site inspection and registration (\$250)
 - Facilities that are already wired for or have an electric generator installed.
 - Facility agrees to an inspection of current capabilities and agrees to make reasonable efforts to remain open to serve the public and emergency services in times of emergency.

Fuel Station Generator Program cont'd

Evaluation and Selection Criteria

- Ability to extend hours of operation during an emergency (24/7).
- Existence of fuel contracts with local/state governments.
- Proximity to other fuel facilities with back-up power generation.
- Accessibility (ingress/egress) for large essential service vehicles.
- General location and proximity to major highways, emergency routes, and populations centers.
- On-site storage capacity
- Ability to sell other products during an emergency – food, bottled water, batteries, etc.

- Anticipate approximately 70 awardees

Lifeline Sector Prioritization

Goal: Ensure prioritization of critical lifeline sector facilities with Michigan utilities

- Same old Story..
 - “we maintain lists of priority restorations..”
 - However, each major outage the MPSC receives requests from lifeline sectors requesting assistance with emergency restoration.
- Solution: Facilitated information exchanges between utilities and lifeline sector owners and operators.
 - (i.e. 1st month-healthcare, 2nd month-water, etc.)



Cybersecurity

Questions and Contact Info

Thanks for your attention

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michigan.gov/mpsc

Ben Bolton

Tennessee Office of Energy Programs

U.S. DEPARTMENT OF
ENERGY



Department of
**Environment &
Conservation**

Emergency Planning & Cybersecurity

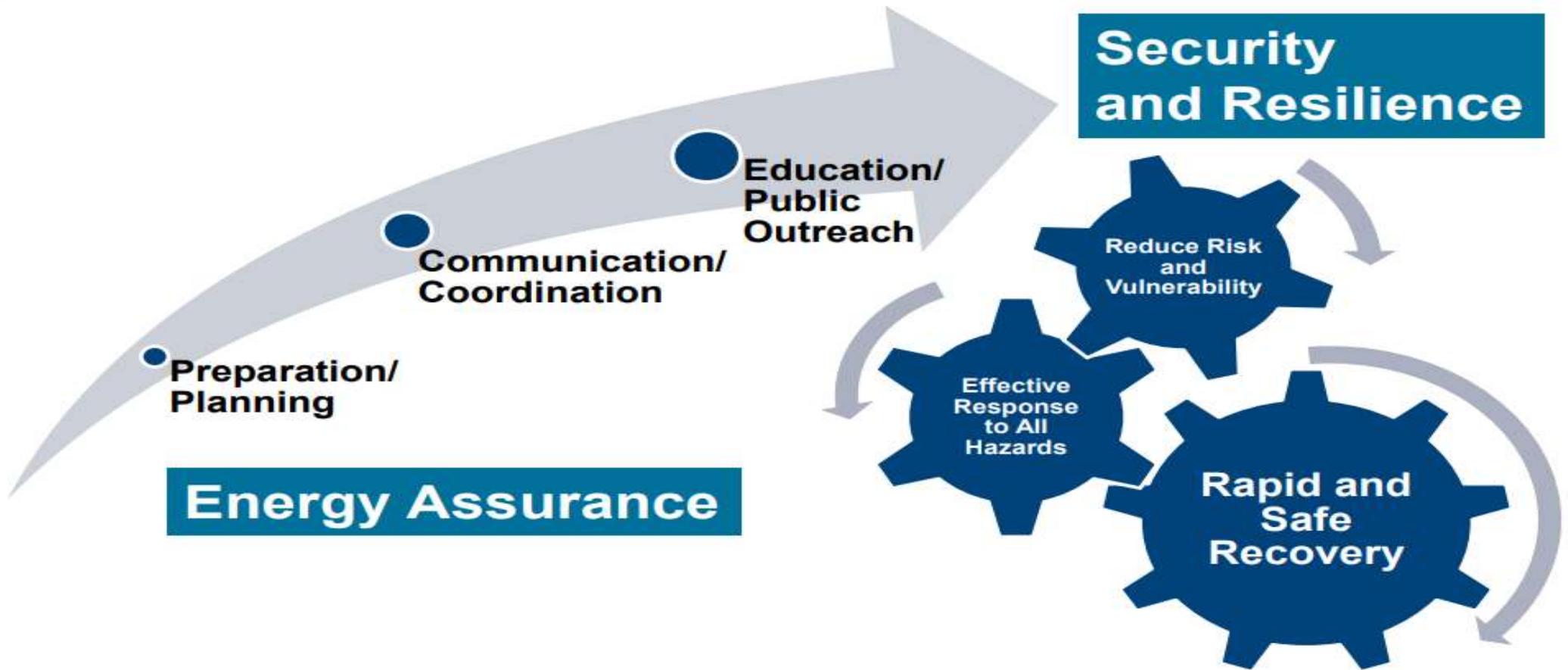
Ben Bolton, Energy Programs Administrator

Tennessee Office of Energy Programs

Better Buildings Summit, Arlington, Virginia July 10-11th, 2019



Energy Security



State Energy Office Roles



Data Tracking & Monitoring

- Energy profile
- Capacity and flows
- Critical infrastructure
- Threats and hazards and related risk



Authorities & Responsibilities

- Emergency declarations and waivers
- Connection to other state plans
- Emergency electrical procedures
- Petroleum shortage plans
- Federal frameworks (e.g., National Infrastructure Protection Plan, National Response Framework)



Contacts & Coordination

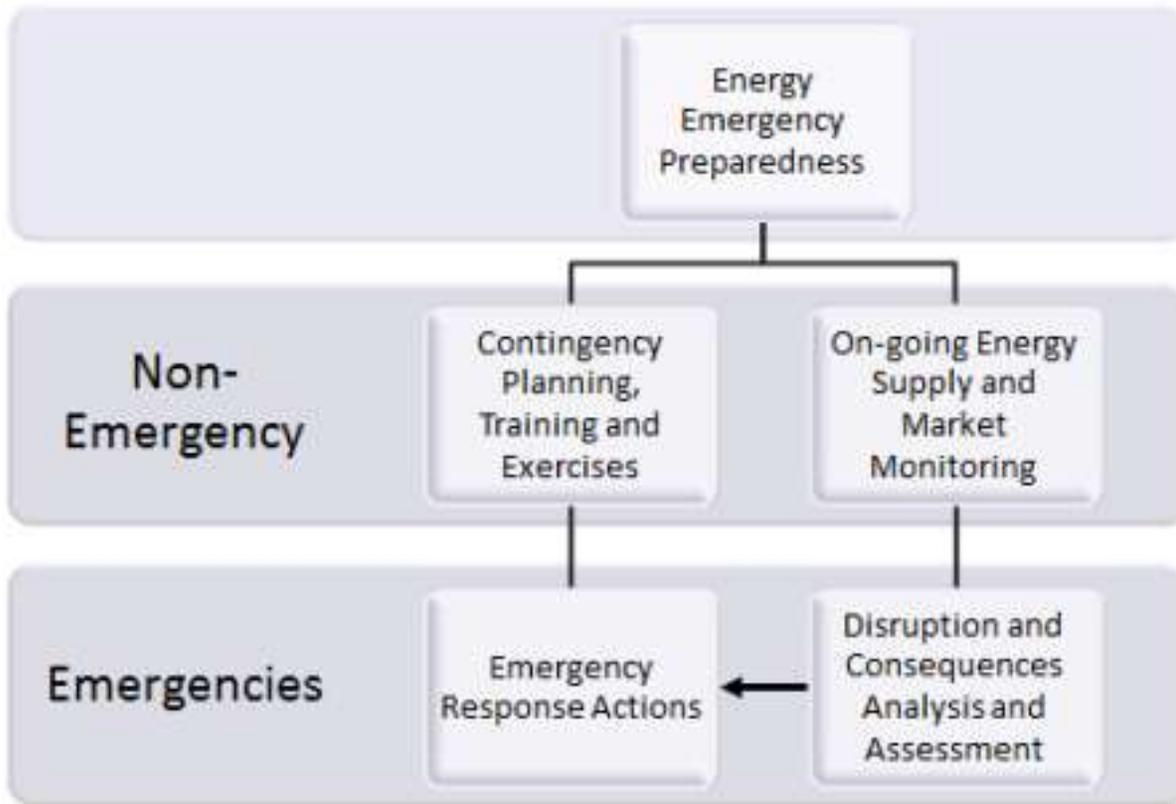
- Local governments
- General public
- Other state agencies
- Neighboring States
- Petroleum suppliers
- Gas and electric utilities
- Distribution companies
- Industry associations



NASEO Energy Security Committee

- Energy Emergency Assurance Coordinators (EEAC) [Program](#)
 - Each state has at least one primary & secondary designee
 - In an emergency, EEAC provides up-to-date assessments to DOE
- Useful reference guides for state planning
 - [Guidance for States for Petroleum Shortage Response Planning](#)
 - [Guidance for States on Relief from Federal Motor Carrier Safety Regulations in an Energy Emergency](#)
 - Guidance for States on Cybersecurity – under development

Energy Security Roles



Energy Security Planning

Energy Assurance Plan

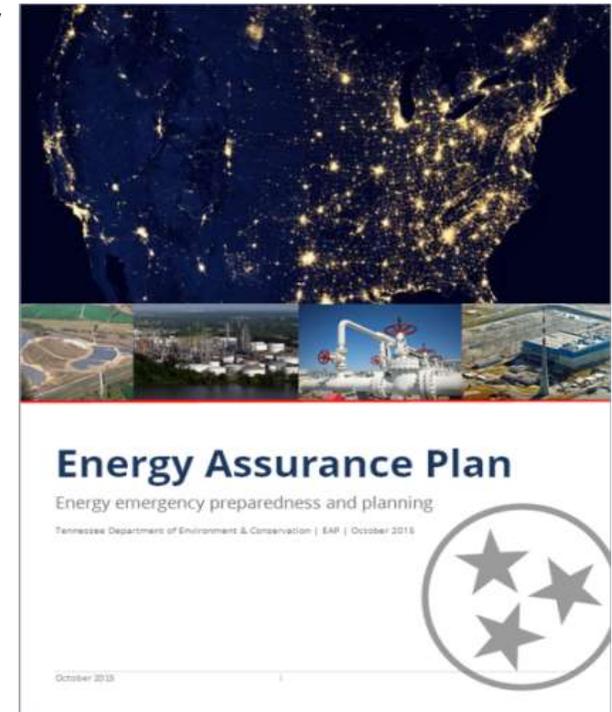
- Facilitate energy emergency preparedness and planning to create a rapid response capability for recovery from disasters.
- Outlines when government involvement is warranted, the State's responsibilities during an energy emergency, and the coordination of federal and State resources, when required.

Petroleum Contingency Plan

- Provides the Governor, the Legislature, various State departments, and the public with a plan to manage a motor fuel shortage with the least disruption to the economy.

Fuel Set-Aside Plan

- "... setting aside of petroleum products, in order to help meet emergency petroleum requirements and thereby relieve the hardship caused by such shortage..."
 - (1) Agricultural production
 - (2) Emergency services
 - (3) Energy production
 - (4) Passenger transportation services
 - (5) Sanitation services
 - (6) Telecommunication services



Energy Security Authority

Tennessee Code Annotated:

- 4-3-510 The Office of Energy Programs has the duty and responsibility to...
(5) promote state and local energy emergency preparedness in coordination with other appropriate state agencies, such as the military department;
- 4-3-513 Office of Energy Programs -- Set-aside program for petroleum products
- 4-3-514 Office of Energy Programs -- Additional powers – Confidentiality
 - (b)(1) The office shall maintain the confidentiality of all proprietary information it may acquire.

Emergency Support Functions (ESFs)

- Backbone to the Tennessee Emergency Management Plan
- Tennessee developed. FEMA adopted.

- Do not reinvent.
- Seek out established, and where possible, accredited plans.



OEP Energy Security Scope

- Promote state and local energy emergency preparedness in coordination with other appropriate state agencies.
- Points of contact for States, U.S. Department of Energy (DOE), National Association of State Energy Officials (NASEO), TVA, and the energy industry in event of an energy emergency.
- Provide assessment, notification, news and updates on actions taken regarding energy.
- Serve as primary contact for each fuel sector (petroleum products, electricity, natural gas, propane)



U.S. DEPARTMENT OF
ENERGY

NASEO
National Association of
State Energy Officials



Energy Security Checklist

Date:	06-15-2019
By:	OEP ESC



Office of Energy Programs ESF-12 Energy Energy Security Checklist

Hazard ID:	FUEL (ENERGY EMERGENCY) Transportation and Heating Fuels
Use By:	OEP ESCs & Staff

SHORT-TERM RESPONSE OBJECTIVES

- Identify type of fuel affected by disruption
 - Liquid Petroleum Products
 - Gasoline
 - Distillates: Diesel and Jet Fuel
 - Natural Gas
 - Propane
- Make immediate contact with private sector partners (see reference below)
- Identify potentially affected areas, industries, property, and sectors.
 - Consider first responder supply
 - ID significant events (SEAR) in area
- Estimate potential duration and severity of disruption
- Determine appropriate State response (possible actions provided on page 4)

RESOURCE TYPE

TEMA State Emergency Operations Center (SEOC)
TEMA/Military Public Information Officer (PIO)

TN Dept. of Environment & Conservation (TDEC)
Office Energy Programs (TDEC OEP)
Office of Emergency Services (TDEC OES)
Office of General Counsel (TDEC OGC)
Air Pollution Control (TDEC APC)
External Affairs; Environmental Field Ofc (EFO)
Gas Station GIS Map (TDEC STS)

TN Dept. of Agriculture: Weights & Measures

TN Dept. of Commerce & Insurance (C&I)
State Fire Marshall

PURPOSE

Overall coordination
Overall messaging to public & to media outlets

Lead ESC and primary ESF12 responsibility
Infrastructure Branch Manager
Legal advice; Drafting Executive Orders
RVP Waivers; EPA Multi-state Waivers
Field reports from across the State
Maps gas stations; tracking shortages

Logistics support for severity, duration, and impacted area; Non-ozone season RVP waivers

Price Gouging Act; consumer complaints
Waiver of propane delivery restrictions



Energy Security Checklist – Private & Public Sectors

Private Sector Contacts

- **Transportation fuels**
 - Fuel & Convenience Store Association
 - American Petroleum Institute Affiliate
 - Grocers Association
 - Retail Association (Wal-Mart, Sam's Club, Costco)
 - Refinery Governmental Affairs
 - Government Affairs for terminal owner/operators
 - Fuel supply lead, major convenience store chain
 - Major trucking companies with fuel tankers
 - International Airport in major metropolitan areas
- **Natural Gas**
 - Gas Association
 - Interstate Pipelines
- **Propane**
 - Propane Gas Association
 - AmeriGas
 - Poultry Association
 - Other major agricultural manufacturing associations
- **Terminals and Pipelines**
 - Colonial Pipeline Company
 - Kinder Morgan Pipeline (Plantation pipeline)
 - Magellan Midstream Partners

Public Sector Contacts

- **Governor's Office**
 - Energy Advisor, or advisor for fuel issues
- **Emergency Management Agency**
 - Director
 - Chief of Staff
 - Public Information Officer (PIO)
 - General Counsel
 - Operations
- **Environmental Agency**
 - Commissioner
 - State Energy Office (SEO) Director
 - ESF-12 Energy Primary ESC
 - ESF-12 Energy Alternate ESC
 - General Counsel
 - Counsel for Energy Issues
 - Counsel for Air issues
 - Public Information Officer (PIO)
 - Director, Air
 - Director, Underground Storage Tanks
- **Safety & Homeland Security**
 - Commissioner
 - Primary ESC, Highway Patrol
 - Special Agent, Cybersecurity
- **Public Utilities Commission**
 - ESC-12 Energy Primary
 - ESC-12 Energy Alternate

Energy Security Checklist – Federal Contacts

Federal Sector Contacts	
<ul style="list-style-type: none"> ○ TVA [or major power generator in state] <ul style="list-style-type: none"> ▪ ESC-12 Primary, Emergency Mgmt ▪ ESC-12 Alternate, Electric Outages ▪ ESC-12 Alternate, Electric Outages ▪ Emergency Preparedness ▪ ESC for TVAs nuclear power sites 	<ul style="list-style-type: none"> ○ Federal Motor Carriers Safety Administration (FMCSA), U.S. DOT <ul style="list-style-type: none"> ▪ Division Administrator – (State), FMCSA ▪ Alex Kennan, FMCSA Emergency Coordinator/Safety Alex.keenan@dot.gov (202) 366-0177
<ul style="list-style-type: none"> ○ NASEO <ul style="list-style-type: none"> ▪ Jeff Pillon, NASEO Director, Energy Assurance Program jpillon@naseo.org ▪ Shemika Spencer, NASEO Director, Contracts & Grants sspencer@naseo.org ▪ Campbell Delahoyte, NASEO Energy Security Program Manager sspencer@naseo.org ▪ Jeffery Genzer, NASEO General Counsel jcq@dwcp.com 	<ul style="list-style-type: none"> ○ U.S. Department of Energy (DOE) <ul style="list-style-type: none"> ▪ Kate Marks, EEAC Program Manager, DOE ISER, CESER Kate.Marks@hq.doe.gov (202) 586-9842 ▪ Anthony Lucas, National ESF12 Program Manager, DOE Anthony.lucas@hq.doe.gov (202) 586-0893 ▪ Ken Buell, Director, Emergency Response & Recovery, DOE Kenneth.buell@hq.doe.gov (202) 230-9156 ▪ ESC-12 Regional Coordinator, [DOE Region Number], DOE
<ul style="list-style-type: none"> ○ U.S. Environmental Protection Agency (EPA) <ul style="list-style-type: none"> ▪ Christopher Thompson, Air Enforcement Division Thompson.christopher@epa.gov ▪ Kurt Gustafson, Office of Transportation & Air Quality Gustafson.kurt@epa.gov 	<ul style="list-style-type: none"> ○ U.S. Coast Guard <ul style="list-style-type: none"> ▪ Port Security – Port of [major metropolitan port city] ▪ Port Security – Port of [major metropolitan port city]



Energy Security Checklist – Potential Waivers

List of Potential Waivers	Purpose	Party Responsible for Submitting Waiver Requests	Responsible Party for Approval of Waiver
Driver's Hours of Service (HOS)	Reduce strain on fuel suppliers Allow longer trips for fuel sourcing	TEMA - Requests Governor to declare emergency by Executive Order, which waives HOS FMCSA – Declares regional emergency, which waives HOS	Governor's Office FMCSA
Reid Vapor Pressure (RVP)	Reduces strain on fuel suppliers by allowing lower gasoline blend to be used sooner	OEP and Agriculture (TDA) provide draft waiver request to TDEC and TDA Commissioners for signature OR Governor's Office for signature; If approved by EPA/DOE, then TDA issues waiver for fuel quality standards.	EPA DOE TDA
Propane Delivery Restrictions	Allow any propane dealer to fill a tank; Reduces strain on propane supply market	C&I – State Fire Marshall	C&I – State Fire Marshall
Weight Restrictions	Allow tanker trucks to carry more fuel	DSHS / TDOT	DSHS / TDOT
Licensure Waivers	Waive restrictions on who transports fuels	THP	THP



Energy Security Checklist – Actions to Take

Actions According to Duration and Severity of Fuel Shortage

Short Duration Low Severity	Long Duration Low Severity	Short Duration (< 3 months) High Severity	Long Duration (> 3 months) High Severity	
Monitor Situation Inform State Energy Office (SEO) Director and TDEC Dir of Emergency Services	Prepare Situational Reports (SitReps) Inform State Energy Office (SEO) Director and TDEC Dir of Emergency Services		Brief TDEC leadership, TEMA, & Governor's Office Notify DOE EEAC Lead & DOE ESF12	
Contact private sector	Communicate regularly with private sector			
Refer media requests to private sector	Hold Conference Calls	Hold Conference Calls • DOE National Energy Emergency Assurance Coordinator (EEAC) Calls • TEMA Statewide Calls (after EEAC)	Hold Conference Calls • DOE National EEAC Calls • TEMA Statewide Calls (after EEAC)	
	Identify proactive, voluntary measures, if necessary	Identify and execute appropriate waivers for short term relief	Identify and execute appropriate waivers for short term and long term relief	
	Consider limiting state travel	Prepare supporting data for Executive Order		
	Declare State of Emergency (Y/N) Request FMCSA Regional Emergency Declaration (Y/N)			
	Coordinate media response with TEMA PIO & private sector			
	Refer media requests to TEMA PIO			
			Establish Inter-Agency Energy Work group (led by Governor's office) Implement State Set-Aside Program (Y/N)	



ESF 12 Monitoring: U.S. DOE EAGLE-I



EAGLE-I is an interactive GIS that allows users to view and map the nation's energy infrastructure and obtain near real-time informational updates concerning the electric, petroleum and natural gas sectors within one visualization platform.



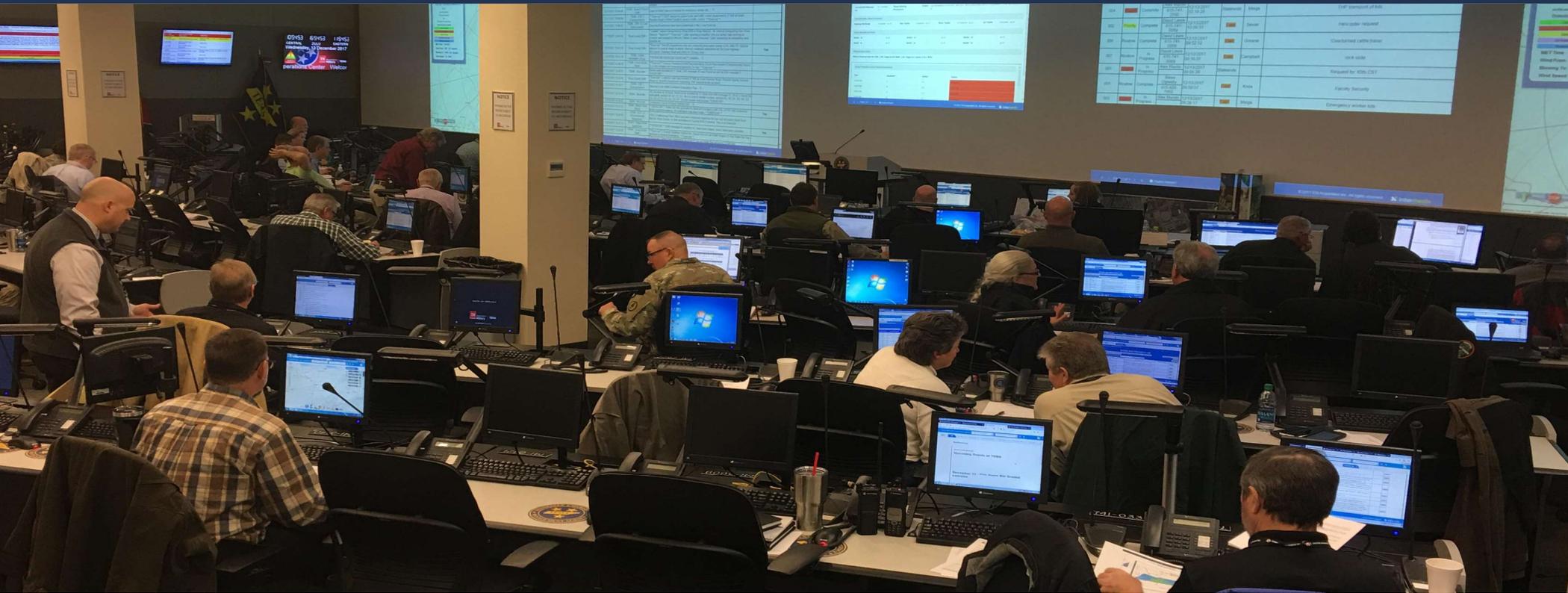
State Emergency Operations Center



TN Gov. Lee visited the State EOC to hear the shift change briefing during 2019 flooding activation.



State Emergency Operations Center



Recent Incidents

- 2014 & 2015 – Ice Storms/Propane Shortage
- 2016 – Colonial Pipeline & TN Panic, Wildfires
- 2017 – Hurricanes Harvey & Irma
- 2018 – Bomb Cyclone, Hurricane Michael



Several injured in explosion near site of AL gas leak



Response & Recovery

“Facilitate the restoration of damaged energy systems and components...and maintain continuous and reliable energy supplies”

- Work with private sector to understand supply constraints and needed assistance,
- Work with public sector (TEMA, Governor’s office, AG, and other State Agencies) to develop waivers and request State of Emergency,
- Coordinate appropriate actions to resolve issues,
- Actively improve standard operating procedures and relevant documents related to Energy Assurance Planning



Questions?



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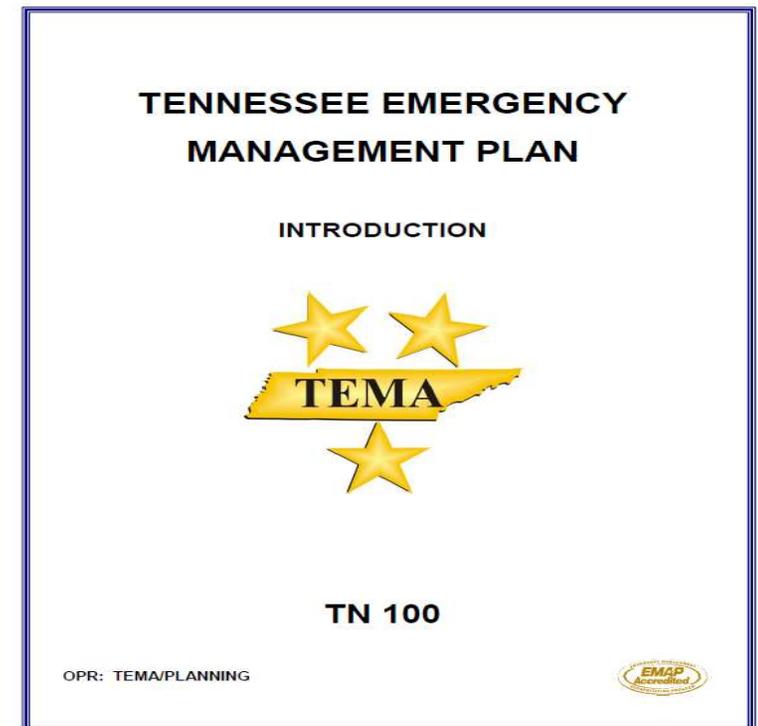


[Cumberland Mountain State Park](#), Crossville, TN



Tennessee Code Annotated 58-2-106: TEMP

- **Tennessee Emergency Management Plan (TEMP)**
 - Describes the assigned emergency roles and responsibilities of departments & organizations during response and recovery operations
 - **58-2-106(b)(1)(h):** “Assign lead and support responsibilities to state agencies and personnel for emergency support functions and other support activities.”
 - Focuses on outlining the State’s coordination structure of how we support (*primarily*) local governments during emergencies



Megan Levy

Wisconsin Office of Energy Innovation

U.S. DEPARTMENT OF
ENERGY

Energy Security & Cyber Security Planning

Megan Levy, Local Energy Programs Manager & Energy Assurance Coordinator

Wisconsin Office of Energy Innovation

US DOE Better Buildings Summit July 10, 2019



Wisconsin Office of Energy Innovation



A Brief History of the Office of Energy Innovation: Wisconsin's State Energy Office

- 56 Energy Office (50 states 6 territories)
- Energy Policy & Conservation Act of 1975
- Each state is required, under 42 U.S.C. § 6323(e)(1), to submit an energy emergency plan that it will utilize in the case of an energy supply disruption.
- Moved in 2015 to PSCW, (ch. 16.955 Department of Administration, State Planning and Energy has been updated to Ch. 196.025(7) as of January 2018).

Chapter 196.025(7) Information.

“(7) State energy office.

(a) The commission shall do all of the following:

1. In cooperation with the other state agencies, collect, analyze, interpret, and maintain the comprehensive data needed for effective state agency energy planning and effective review of those plans by the governor and the legislature.
2. Administer federal energy grants, when so designated by the governor pursuant to s. [16.54](#).
3. Prepare and maintain contingency plans for responding to critical energy shortages so that when the shortages occur they can be dealt with quickly and effectively.

(b) The commission may provide technical assistance to units of government other than the state to assist in the planning and implementation of energy efficiency and renewable resources and may charge for those services. The commission may request technical and staff assistance from other state agencies in providing technical assistance to those units of government.





Our Mission

Wisconsin Emergency Management (WEM) coordinates with OEI/PSCW (lead advisory agencies) to mitigate energy issues of all shapes and sizes. OEI maintains the Energy Assurance Plan (an appendix to Emergency Support Function-12 Energy).





Wisconsin Office of Energy Innovation

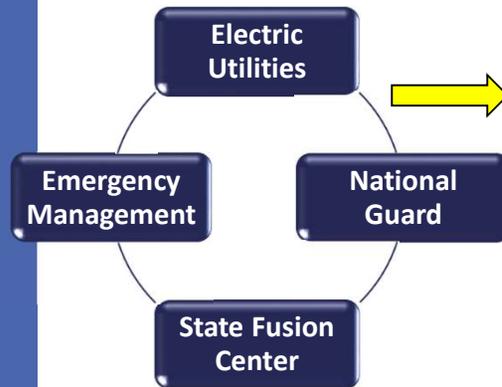
Disaster Declarations are On the Rise

- 598 Disaster declarations between 1995-2004
- 808 Disaster declarations between 2005-2014
- \$37 Billion in FEMA assistance from 1995-2004
- Disaster funding has TRIPLED over the past 19 years
- \$106 Billion in FEMA assistance 2005-2014
- \$400 Billion dollars annually is the estimated cost of cyberattacks on organizations across the globe
- Up to 53% of cyber breaches are caused by preventable employee error or sabotage from within (both public and private sectors)
- Only 5% of organizations have a business continuity, cyber security, and physical security plans
- American Society of Civil Engineers (ASCE) rate US Infrastructure a D+ in 2017
- Source- Idaho National Labs

Wisconsin Electrical Utilities / Department of Military Affairs

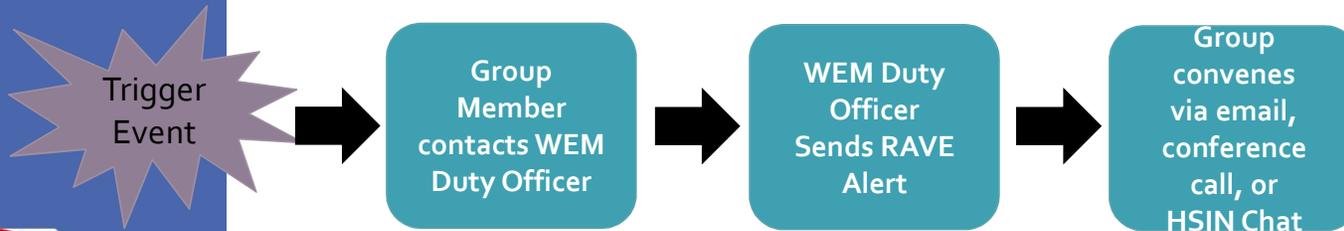
Public Private Partnerships

Utility Coordination Group Membership



Trigger Guidelines:

1. Intentional damage
2. Credible threat
3. Widespread power outage underway
4. A significant interruption to required supply chains



Energy Security Planning In Wisconsin

Wisconsin Emergency Response Plan

ESF-12

OEI- Energy Assurance Plan and Petroleum Shortage Contingency Plan

RECENT ENERGY EMERGENCY INCIDENTS:

December 2013 through March 2014- Propane Shortage/ Crisis

Series of bitterly cold weather days starting on December 11, 2013

12/24- EO #128 declares Energy Emergency (Extreme cold weather combined with product shortages- "authorizes motor carriers to transport overweight loads of energy resources such as fuel and oil, along with milk commodities."

1/3/2014- DHS reports three probable cold weather-related deaths occurred In Ashland, Marquette, and Milwaukee Counties.

March 2016- West Shore Pipeline break/spill – 110 mile segment of pipeline bringing refined products from Milwaukee to Green Bay taken out of service
FLOODING, FLOODING, FLOODING, FLOODING, FLOODING

Refined Products in WI

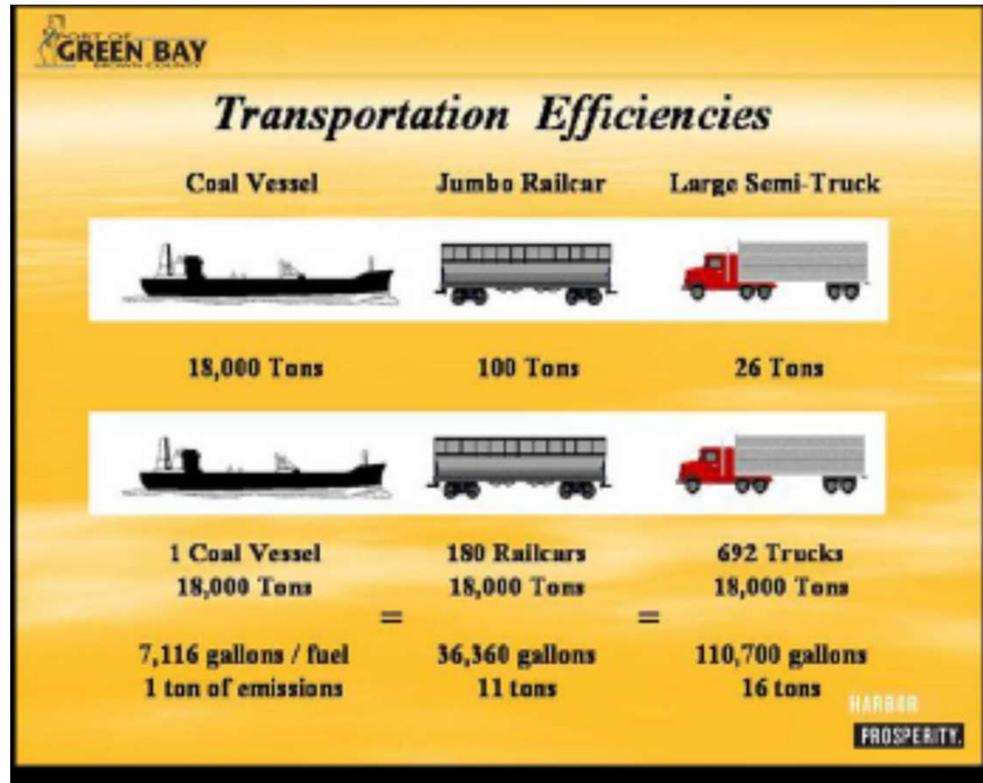
Travel by pipeline-
Loss of the West Shore Pipeline means GB Terminal (below) must be supplied by tanker or barge. Tankers carry approximately 8,500 gallons of product



MEGAPIXL
Download from magapixl.com/790169



Transportation Choices and Efficiencies



Credit: Port of Green Bay, sustainability <https://www.portofgreenbay.com/sustainability>

Pipeline can transport exponential amount of product but the cost to replace the 1963-era Westshore pipeline was too high for off-takers.

Quick Facts

CRUDE

20% of all crude oil refined in US travels through WI (2.5 million barrels per day)

Endbridge:

Line 6: 667,000 bbl/day (34 inch pipe)

Line 14: 343,000 bbl/day (24 inch pipe)

Line 61: 931,000 bbl/day (42 inch pipe)

*Keystone XL is a proposed 36 inch diameter

Line 13 can transport up to 180,000 bbl/day of diluents to Alberta, Canada- to thin crude for transportation. (20 inch pipe)

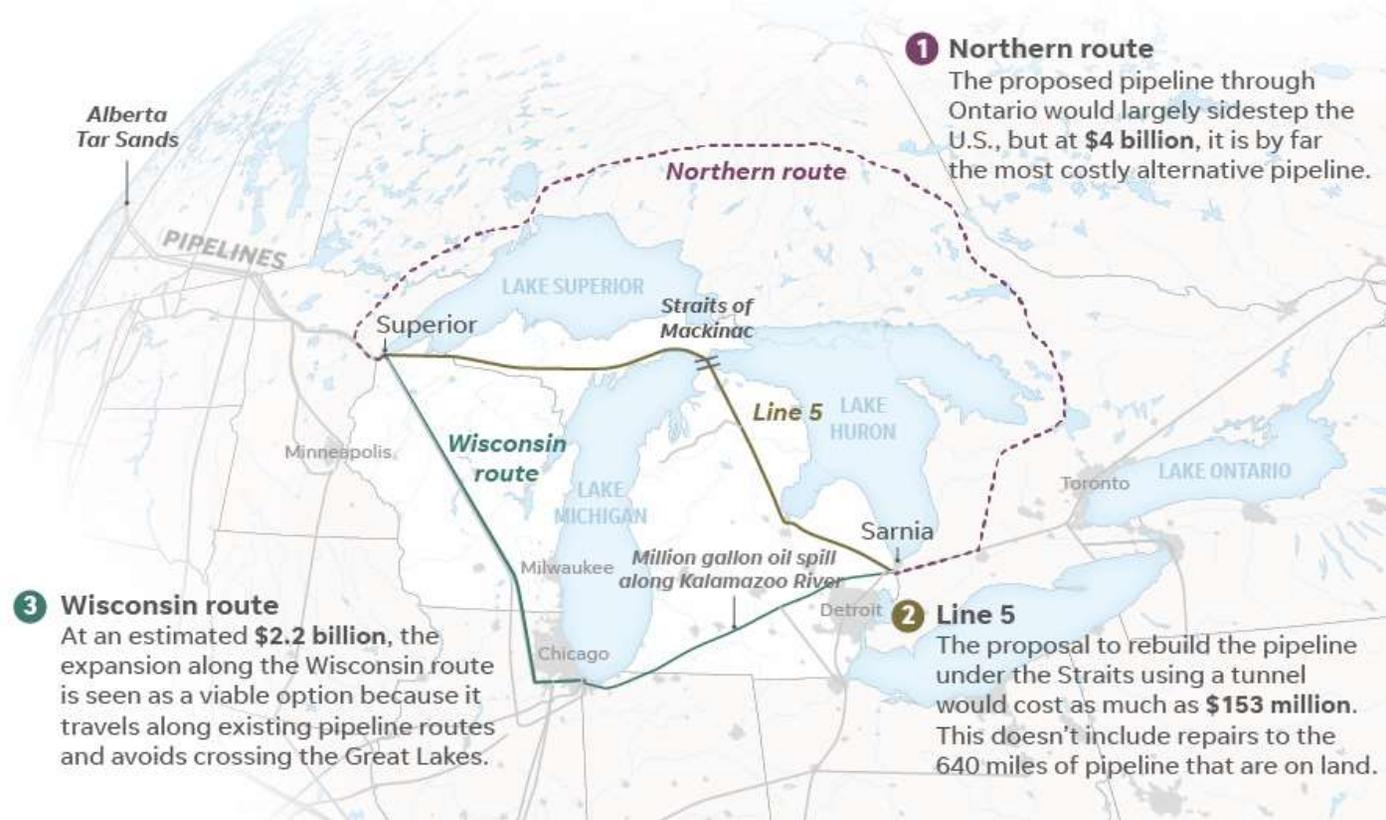
Superior Terminal:

450 acre oil storage facility- 45 tanks can store up to 13 million barrels
Refinery only processes up to 45,000 barrels per day (if that) less than 2% of system's capacity, less than 10% of WI consumption needs



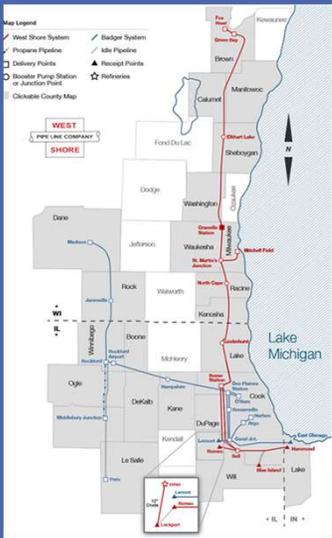
Endbridge Line 5- contested- be aware of alternate routes.

Quick Facts CRUDE



Credit: Milwaukee Journal Sentinel <https://projects.jsonline.com/news/2017/1/15/intro/oil-and-water.html>

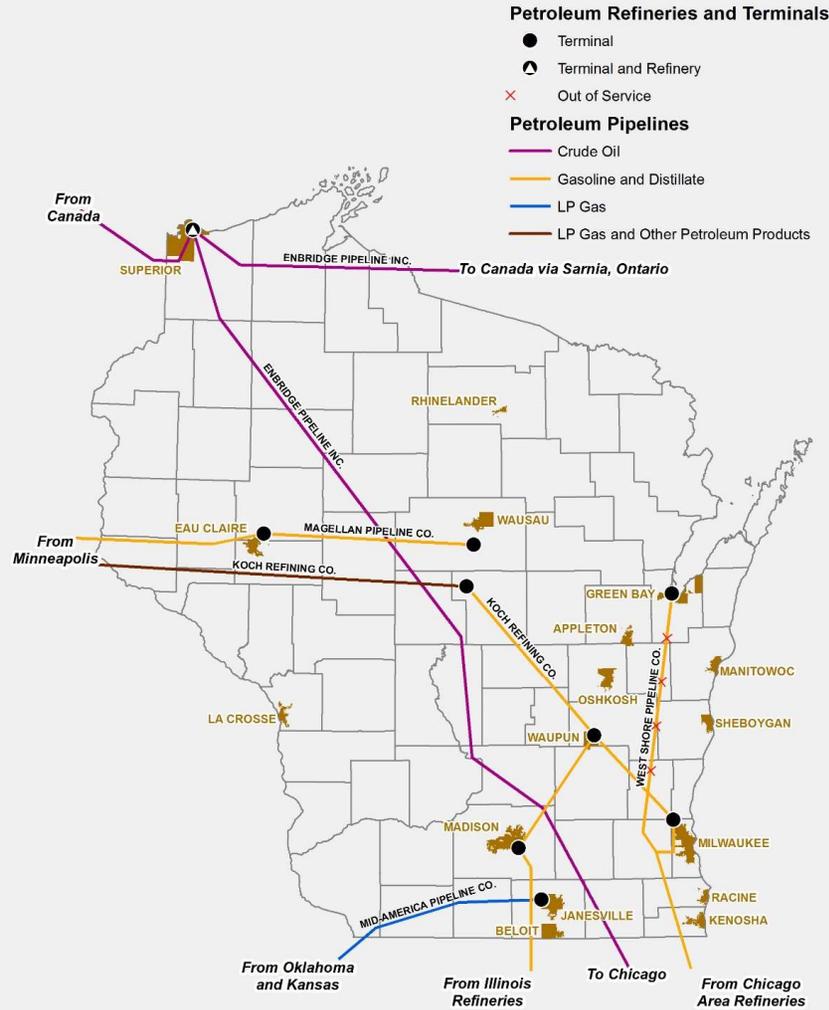
Understanding Dependencies



- Wisconsin receives 90% of refined fuels from four major out-of-state refineries
 - Flint Hills in St. Paul, MN
 - Exxon/Mobile refinery in Joliet, IL
 - Citgo refinery in Lemont, IL
 - BP refinery in Hammond, IN
- 10% of refined fuel is produced in-state at the Calumet Superior refinery
 - Once refined, product is shipped through 3 major pipelines to terminals located throughout the state.
- 23 terminals in the state (12 major) Ethanol is not suitable for pipelines, so it must be blended at the terminal. 90% of gasoline sold in-state is blended with ethanol.
- 25+ Bulk plants (large storage tank facilities)

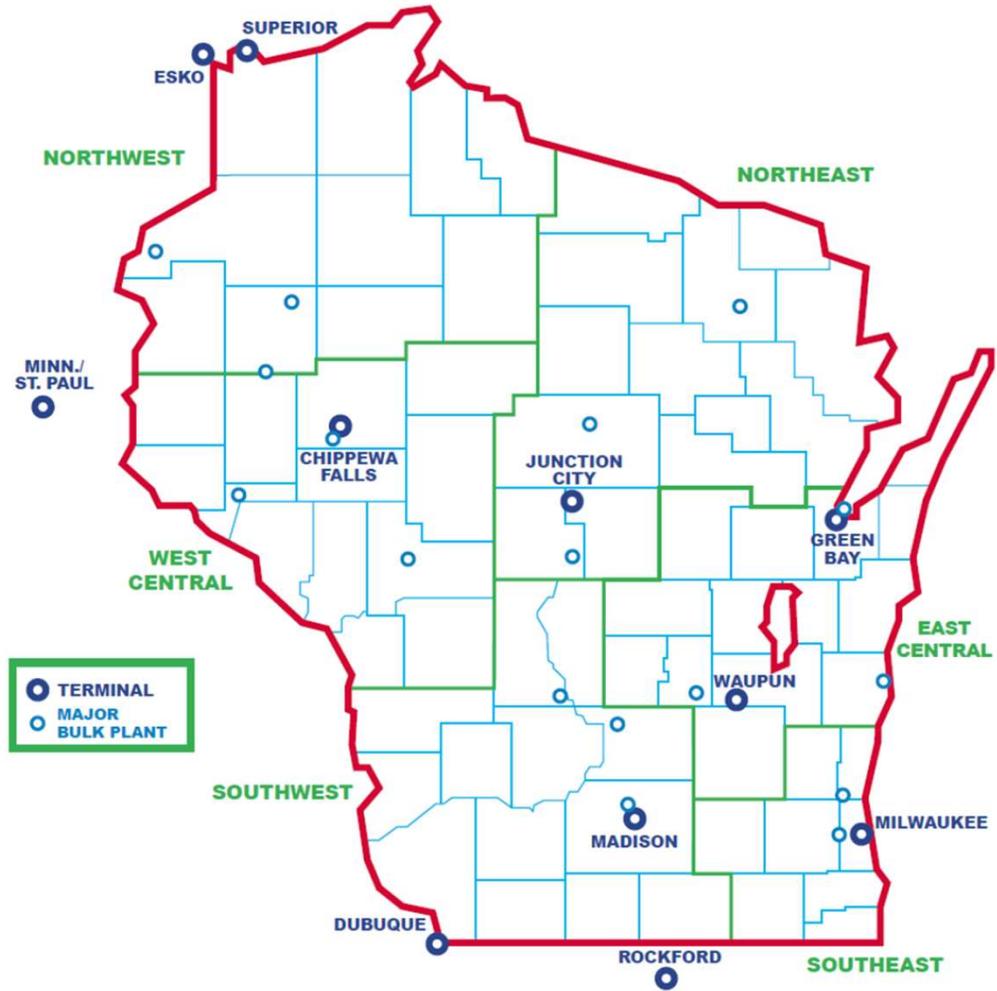
Refined Products and Crude Petroleum in WI

Wisconsin Petroleum Pipelines



Map for Discussion Purposes Only

Terminals and Bulk Plants



Wisconsin Cyber Disruption Response Strategy and Plan





Overall Concept

- Credible threat of significant power outage
- Key infrastructure shut down (pipelines, etc.)
- World events indicate a shortage is imminent

FCG call initiated

- Key industry and government personnel notified
- Discuss response options and make recommendations

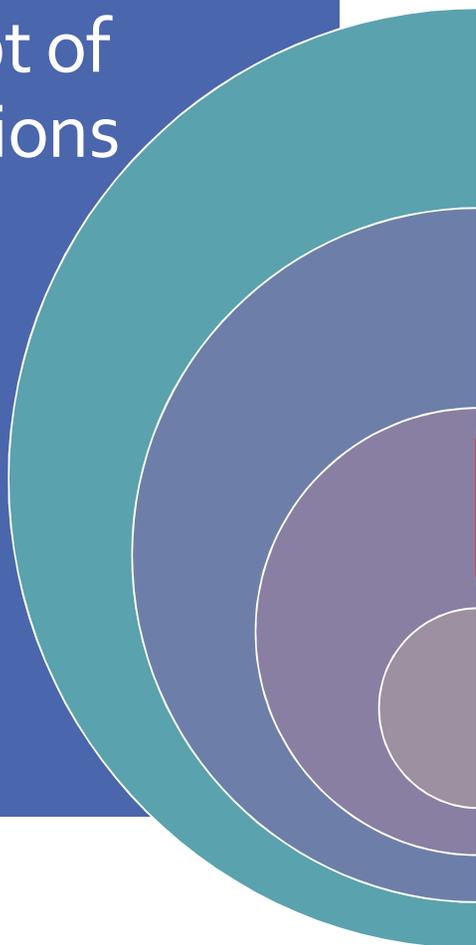
Measures implemented

- Waiver process
- Conservation measures initiated
- Emergency Contracts

Additional calls as needed

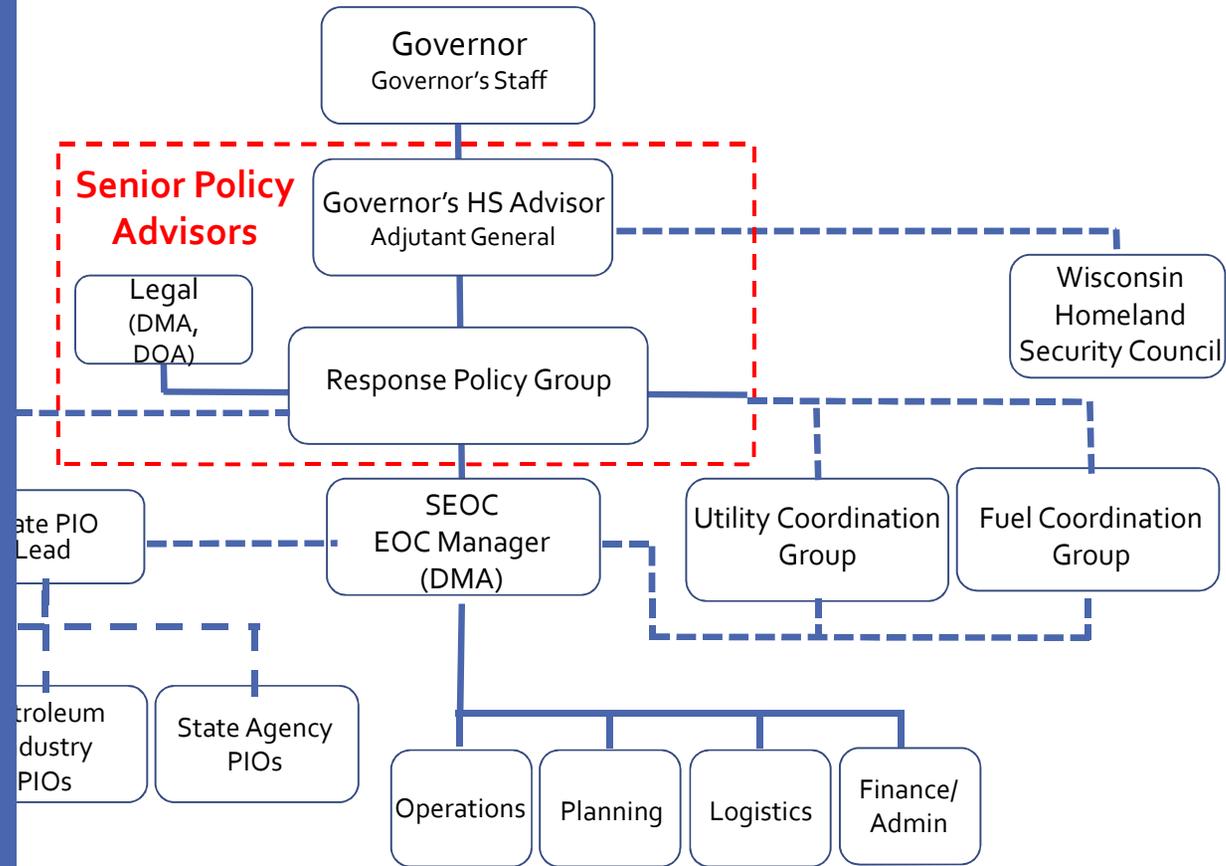


Concept of Operations



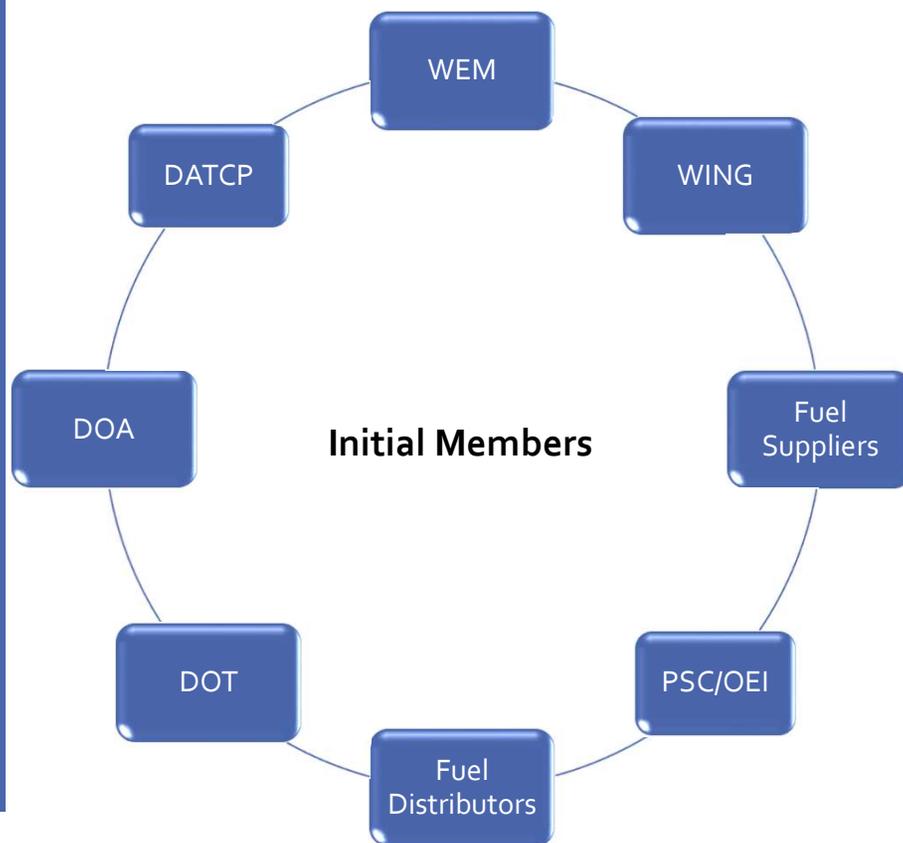
Waivers	<ul style="list-style-type: none">• Weight Limits• Hours of Service
Conservation Measures	<ul style="list-style-type: none">• Voluntary• Mandatory
State Contract & Set Aside	<ul style="list-style-type: none">• Emergency Purchase• Emergency Delivery
Federal Support	<ul style="list-style-type: none">• Generators• Fuel

Proposed Energy Incident Structure





Fuel Coordination Group



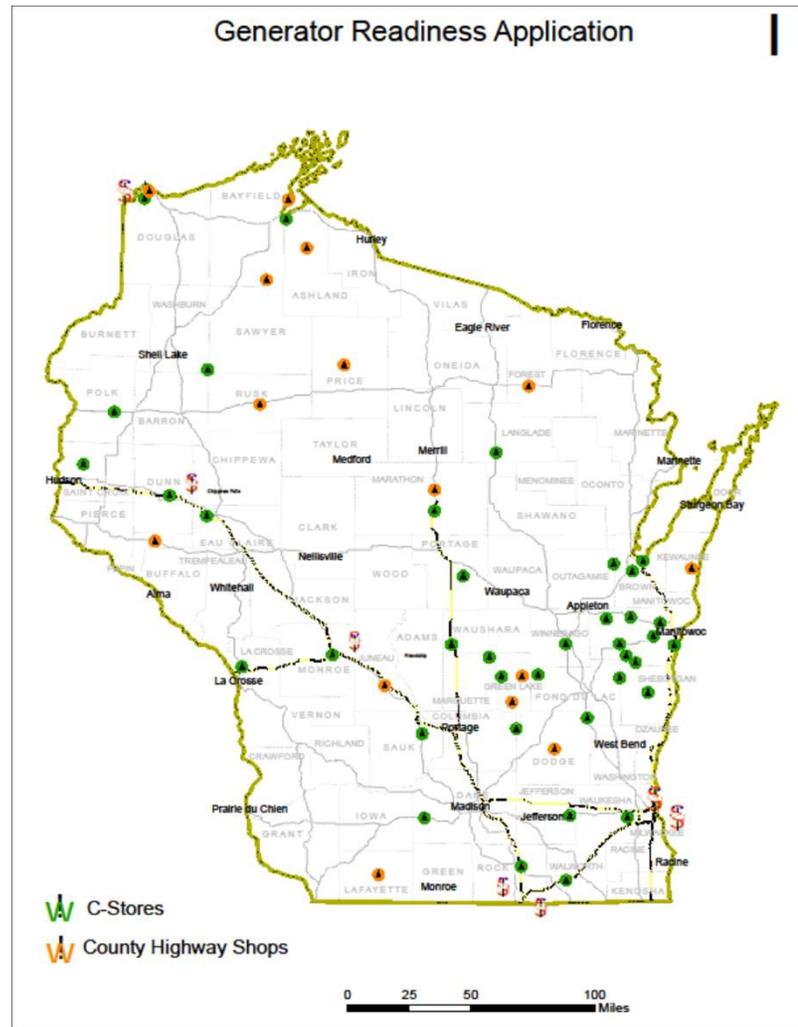
Fuel Point Identification and Local Emergency Manager Outreach

- Taking a page from Oregon's book
 - a. Determine if designated fuel points for critical services vehicles have been identified (gas stations w/backup generators or bulk tanks w/generators)
 - b. Determine routes between fuel points and distribution sites (DOT can help with this analysis once we identify where fuel is coming from and where it is going)
 - c. Use data from section 3.b.i-iii. to assist counties with calculation of requirements
- We need additional research to come up with better estimates for "critical services"
- i. Fuel requirements for law enforcement, fire, & EMS:
 - ii. Fuel requirements for Utility vehicles (to include mutual aid vehicles arriving low on fuel from transit) (WEM)
 - iii. Fuel requirements for DOT road clearance (DOT)

Formalizing Procedures and Partnerships

- Putting more tap switches in Convenience Stores to make them Generator “ready”
- Detailing Process- flow for decision makers
- Potential for grants for Local Emergency Planning/ Facilitate Process

Progress on Generator Ready Fueling Points



Questions and Contact



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Thank You

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