HOW TO LEVERAGE STATE ENERGY PROGRAM (SEP) FUNDING

IN RESILIENCE PLANNING AND PREPAREDNESS

OEI

Wisconsin Office of Energy Innovation

AUGUST 4, 2021

State of WI, Office of Energy Innovation

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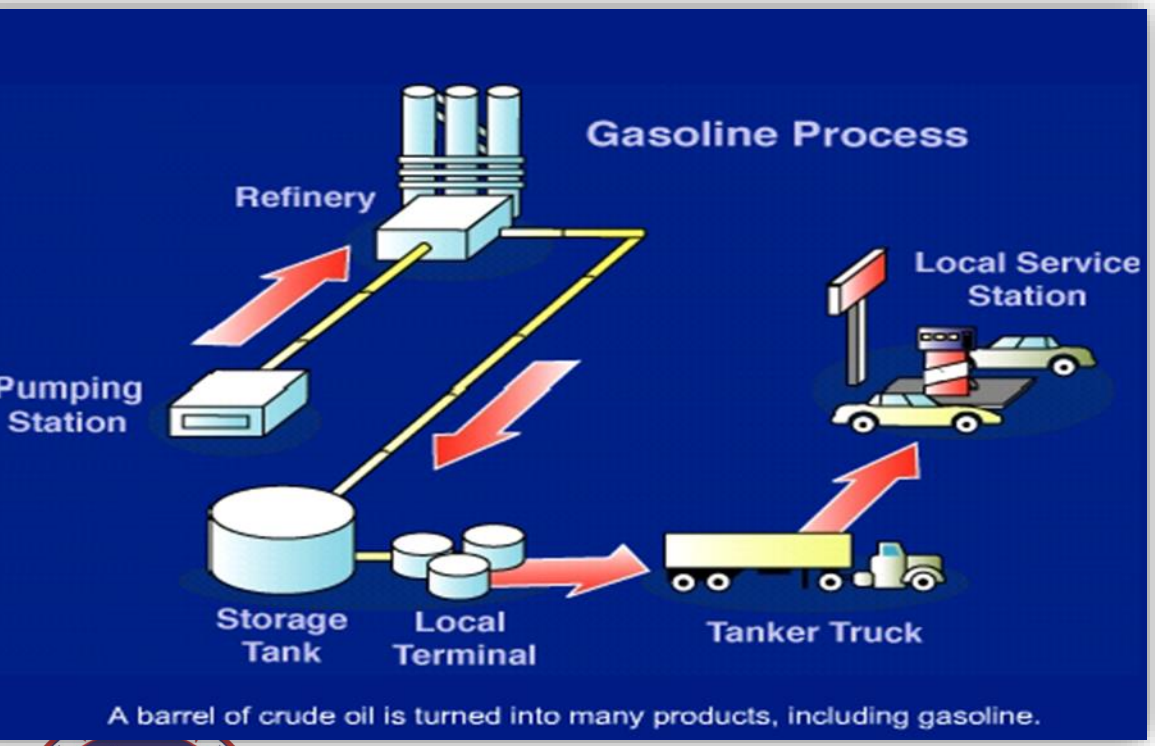
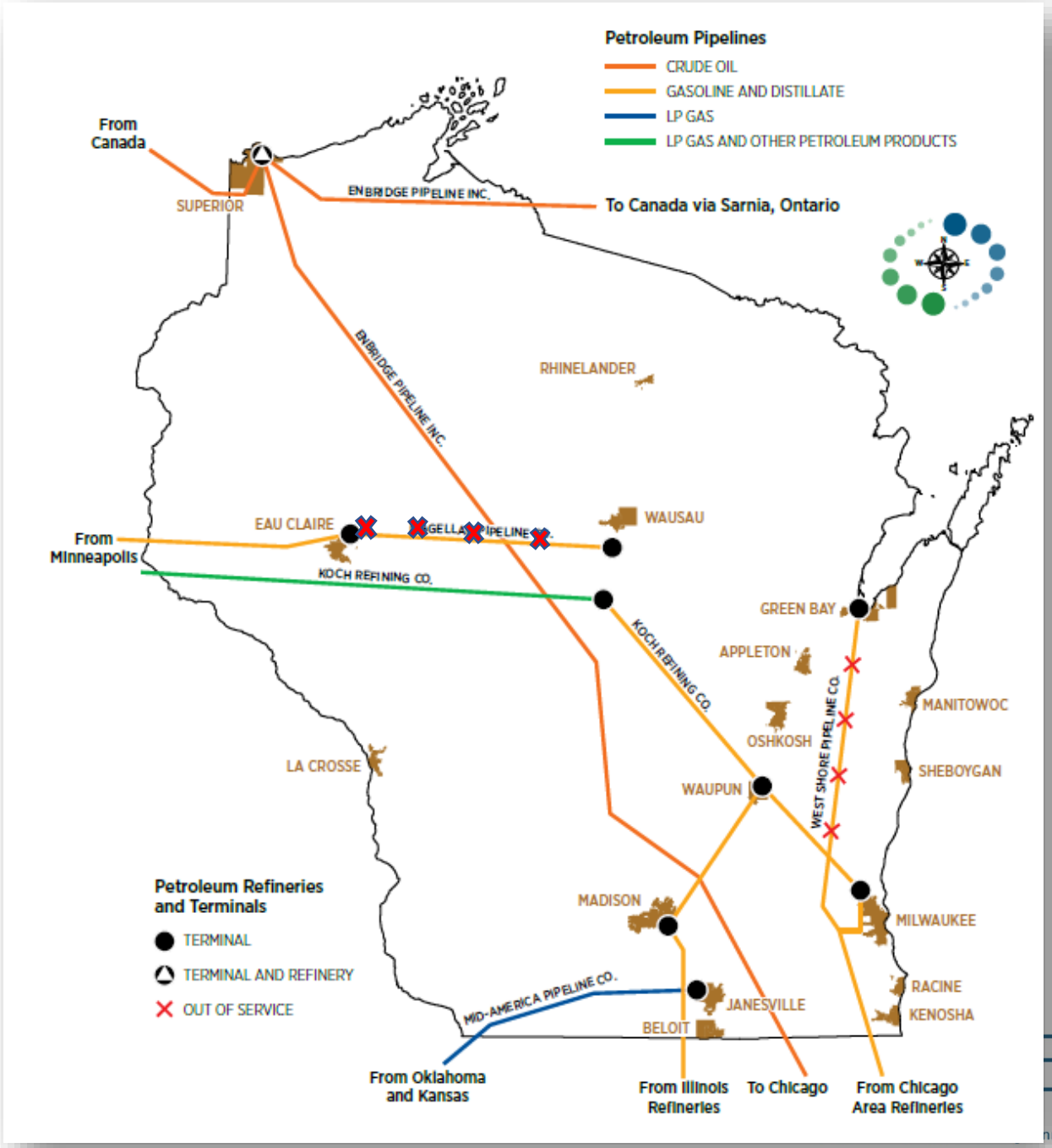
Overview

- Overview of Wisconsin's State Energy Emergency Planning Efforts
  - Lessons learned
  - Overview of Petroleum Shortage Contingency Plan
  - Fuel Points of Distribution
- SAFER2 Grant Activities
- Critical Infrastructure Microgrid & Community Resilience Center Pilot Grant Program
- 2022 Midwest Regional Energy Emergency Exercise

Wisconsin's Petroleum System

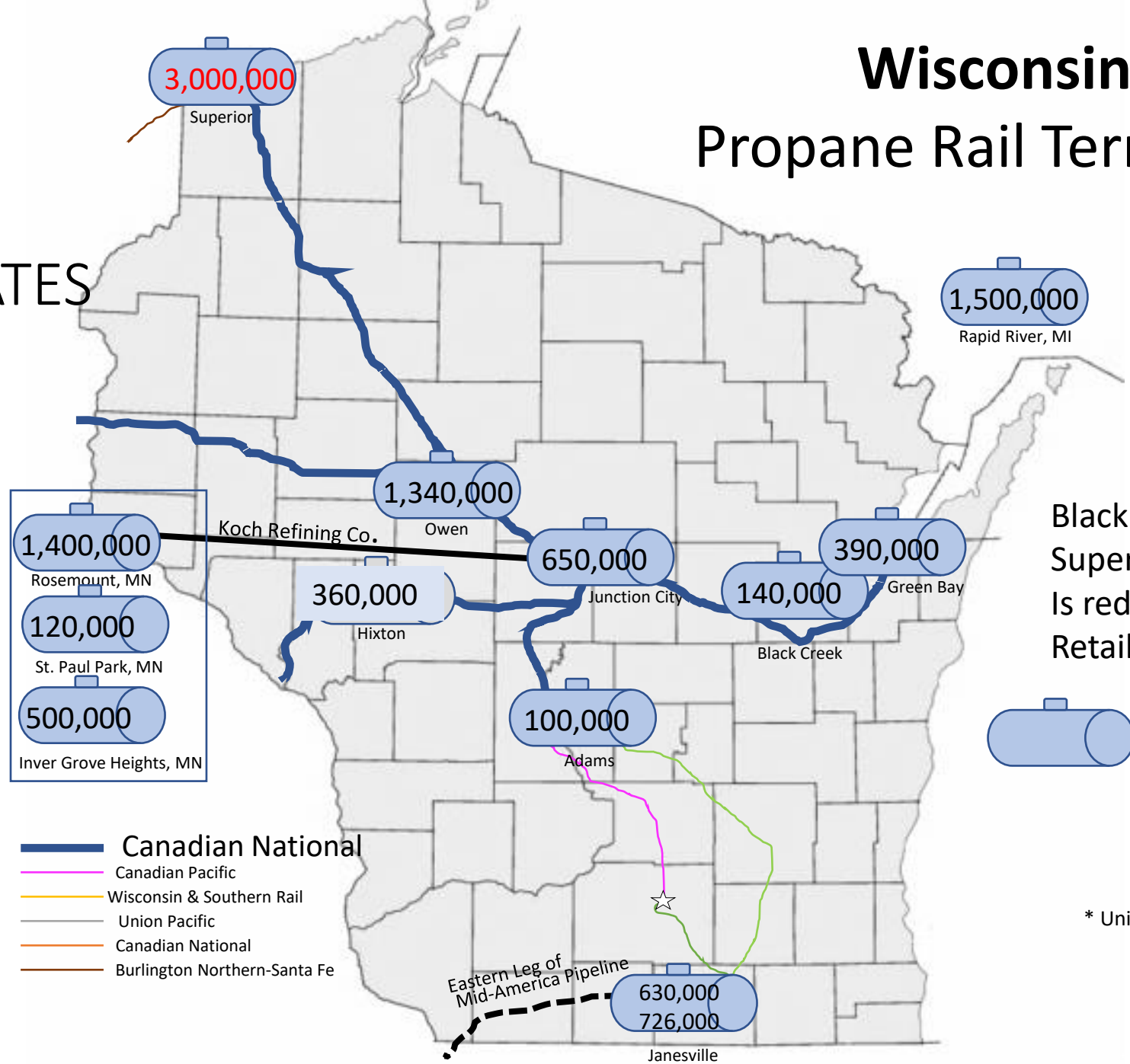
Wisconsin imports $14 billion of energy every year, including petroleum.





Wisconsin
Propane Rail Terminals

ESTIMATES



Black lines are pipelines
Superior product storage number
Is red due to lack of information from
Retail or wholesale in Superior.

= Existing

* Units in gallons

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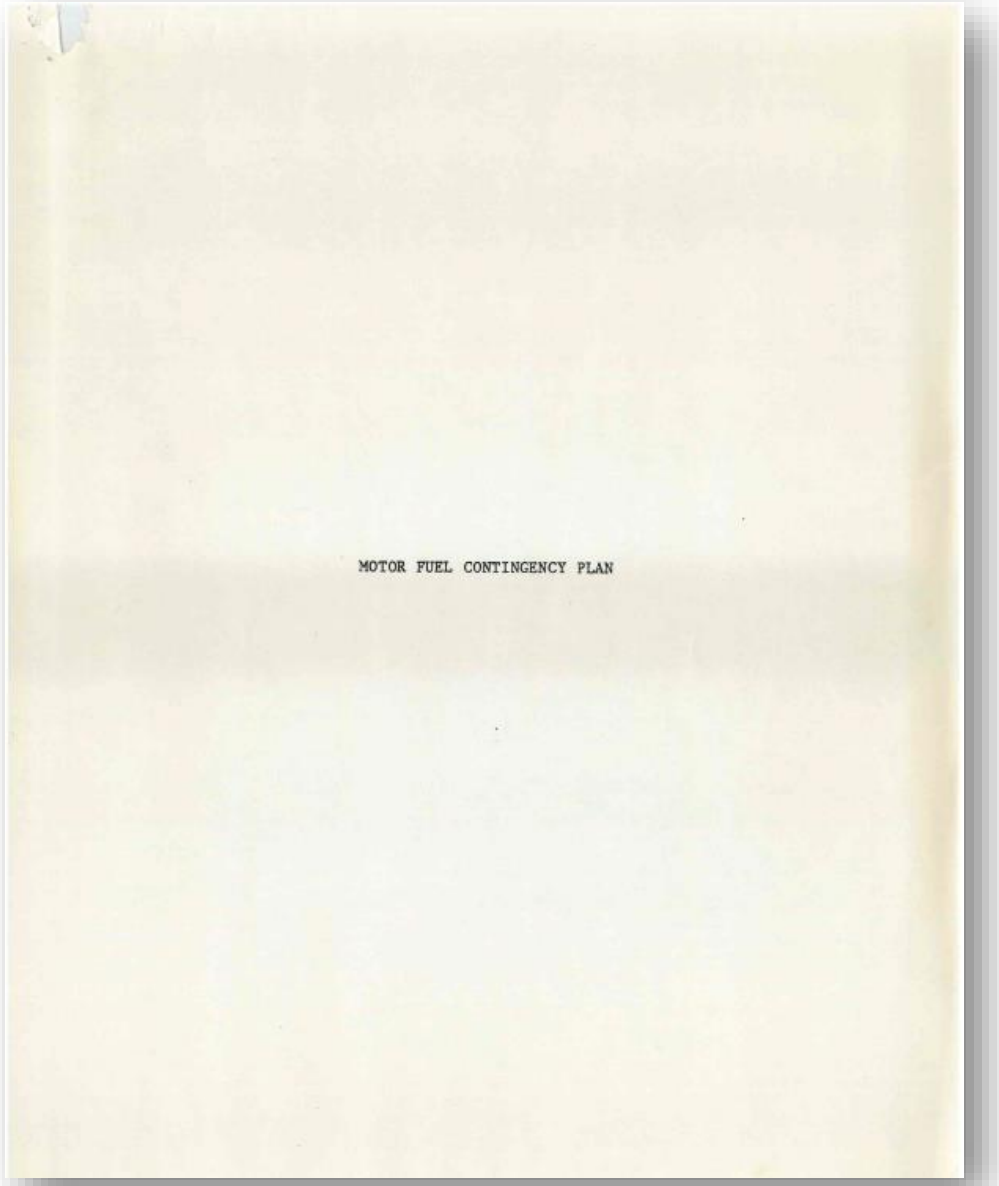
Propane Risk Analysis

Criteria	Data/Comments
Weather	Below average temperatures predicted for upper Midwest for next week
Lines at Terminals	Terminals on allocation, no lines reported
Conway Inventory	In 5 year range
Wholesale Price: Belvieu, TX vs. Conway, KS	Belvieu positive (3 cents per gallon more - very close to parity) Still more profitable to send propane to the Gulf of Mexico
Retail Price	Rising- in the normal range
Crop Drying Demand	High moisture corn resulting in increased demand across the Midwest. As of 11/25- most LP retailers are not allocating product to grain drying. Harvest of corn for grain is now 57% complete 22 days behind 2018, with a moisture content of 23% on average according to NASS for the week ending 11/24- no update from NASS until mid-December
Supply Infrastructure	Pipeline terminals at Janesville and Junction City have been on allocation since November 1.
PSC Call Center Volume	Normal
Railroad Deliveries	Canadian National Railway resolved strike with workers 11/26- normal operations started 11/27- rail terminals are still on allocation
Roadway Status	FMCSA Hours of Service waiver through 1/10/20
Net Risk Assessment	**Level 2**

State Energy Emergency Planning Efforts

- Original plan called the Wisconsin “Motor Fuel Contingency Plan”
  - Designed for 1970’s Oil Crisis
  - Last significantly revised in 1986
- OEI and WEM conducted a review of the plan in April 2017
  - **Lacked procedures for handling long term power outages**
  - Data was in need of significant update, though some measures still relevant.
  - Did not include **propane or heating oil**


MOTOR FUEL CONTINGENCY PLAN

Parallel Planning Efforts

WEM Power Outage Planning Series

- GridEx IV
- Dark Sky
- **USACE RPME**
- GridEx V

Utilities/DMA Partnership

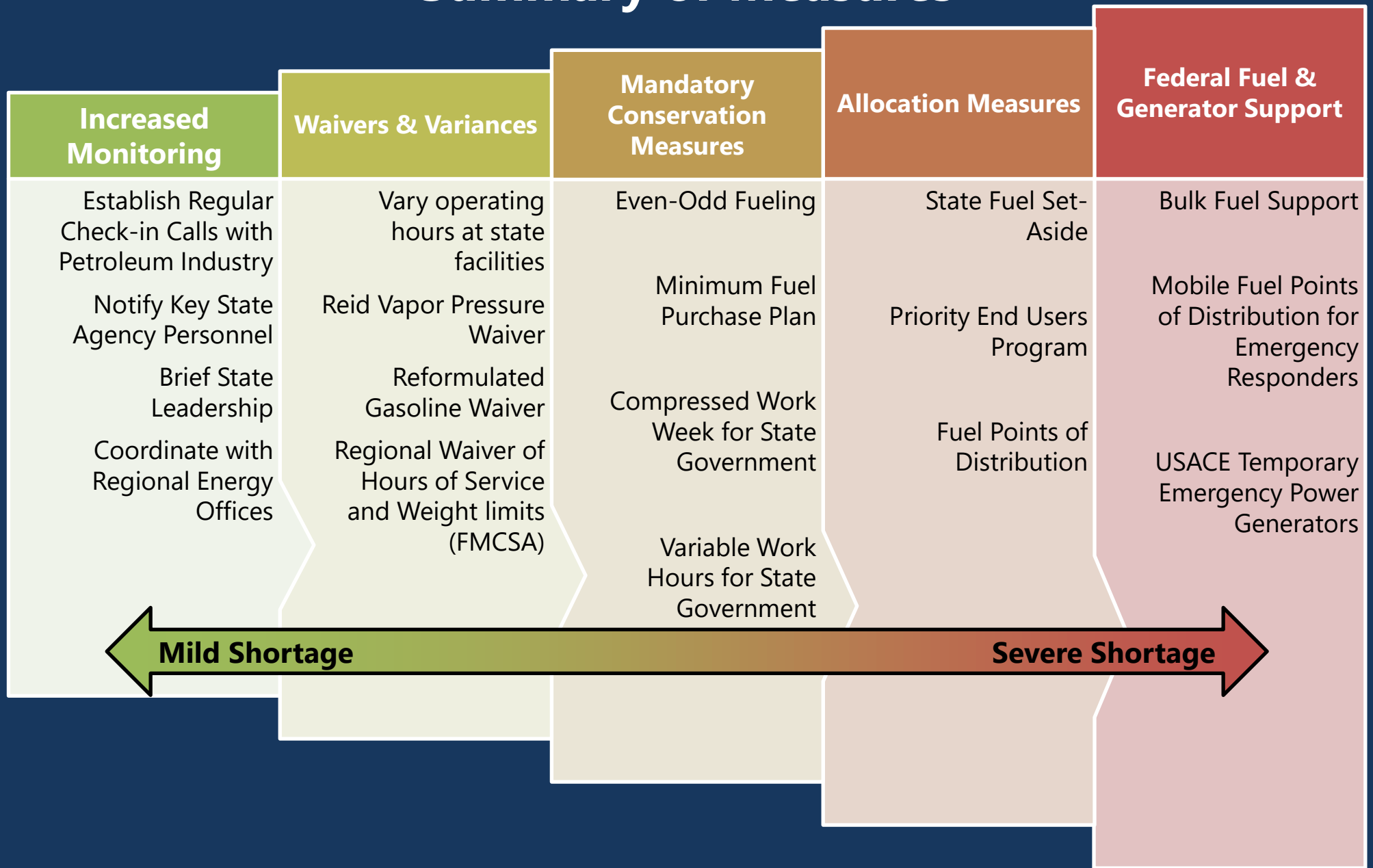
- Utility Coordination Group
- SEOC Utility Liaison
- Redundant Communications

Fuel Planning

- **Petroleum shortage contingency Plan**
- **Fuel Coordination Group**
- **SAFER2, FPODS**

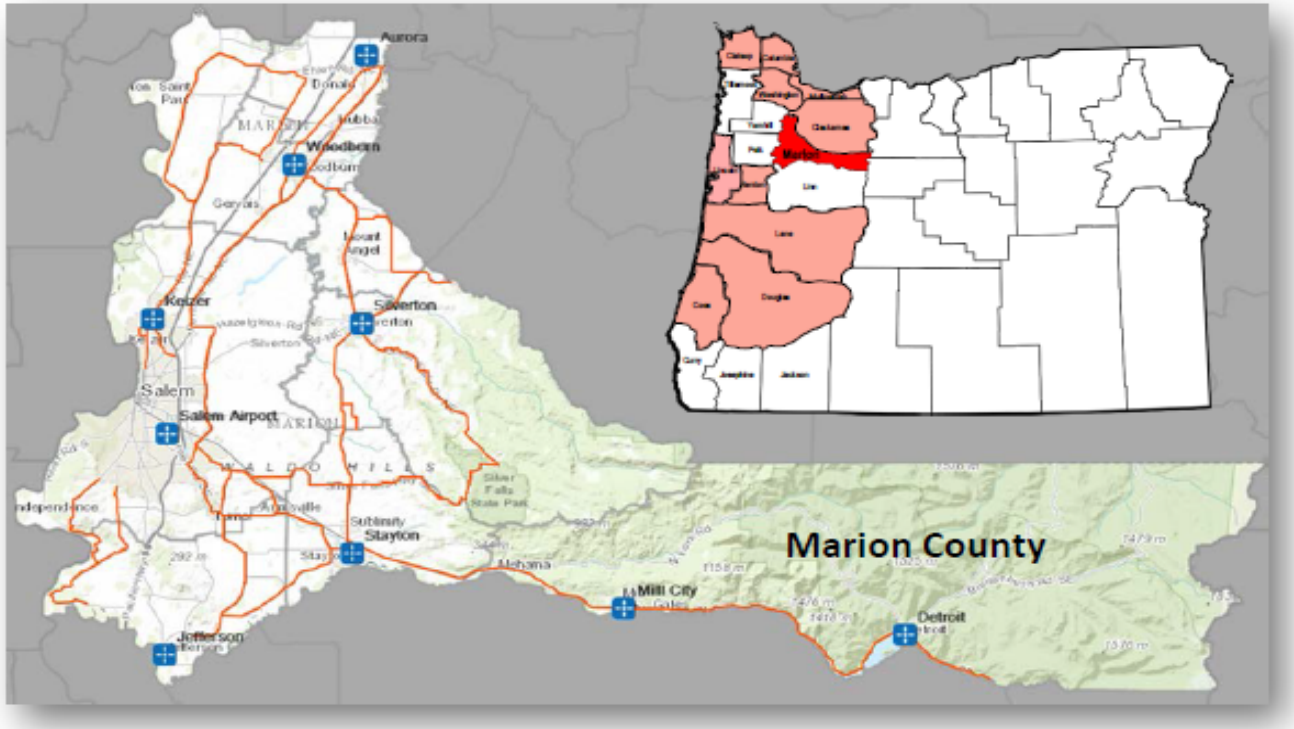
Long Term Power Outage Preparedness

Wisconsin Petroleum Shortage Contingency Plan
Summary of Measures



Fuel Points of Distribution – Oregon Model

Lessons Learned: Fuel Sector



SUSTAINED RESPONSE - COUNTIES

Phase 2: Local

Fuel Source: Bulk Supplies – Outside Region

Marion County identified:

- Tier 1 priority routes connecting to state lifeline routes
- 9 Fuel Points of Distribution to receive bulk fuel supplies

Next Steps

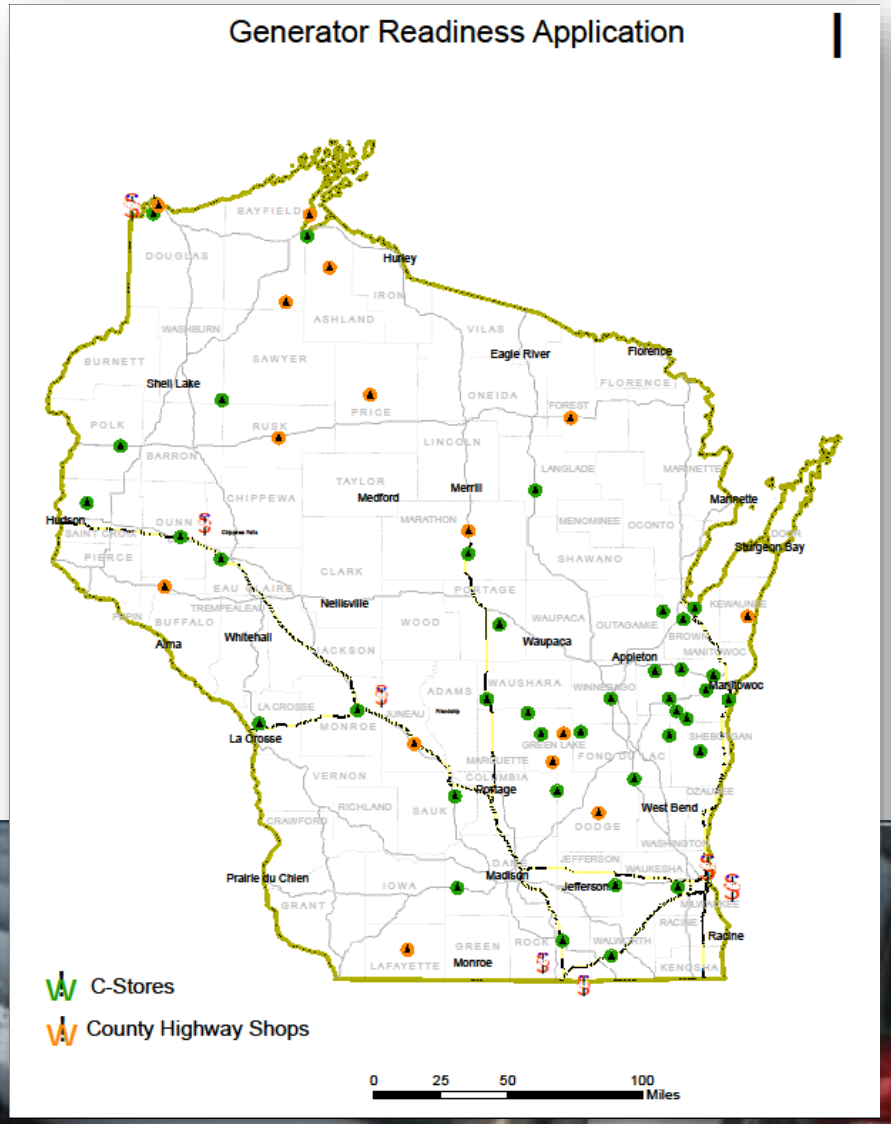
- Continue working with counties to identify local priority routes to connect to state lifeline routes

- Work with counties to ensure pre-designated fuel points align with local priority routes with adequate storage and dispensing capabilities for unleaded and diesel fuel

OREGON DEPARTMENT OF ENERGY

Fuel Points of Distribution – Oregon Model

- Pre-designated Fuel Points of Distribution Should:
  - Have adequate storage and dispensing capabilities
  - Have restricted access
  - Have a backup power generator for fuel pumps
  - Be centrally located
  - Have adequate space for fuel trucks to maneuver

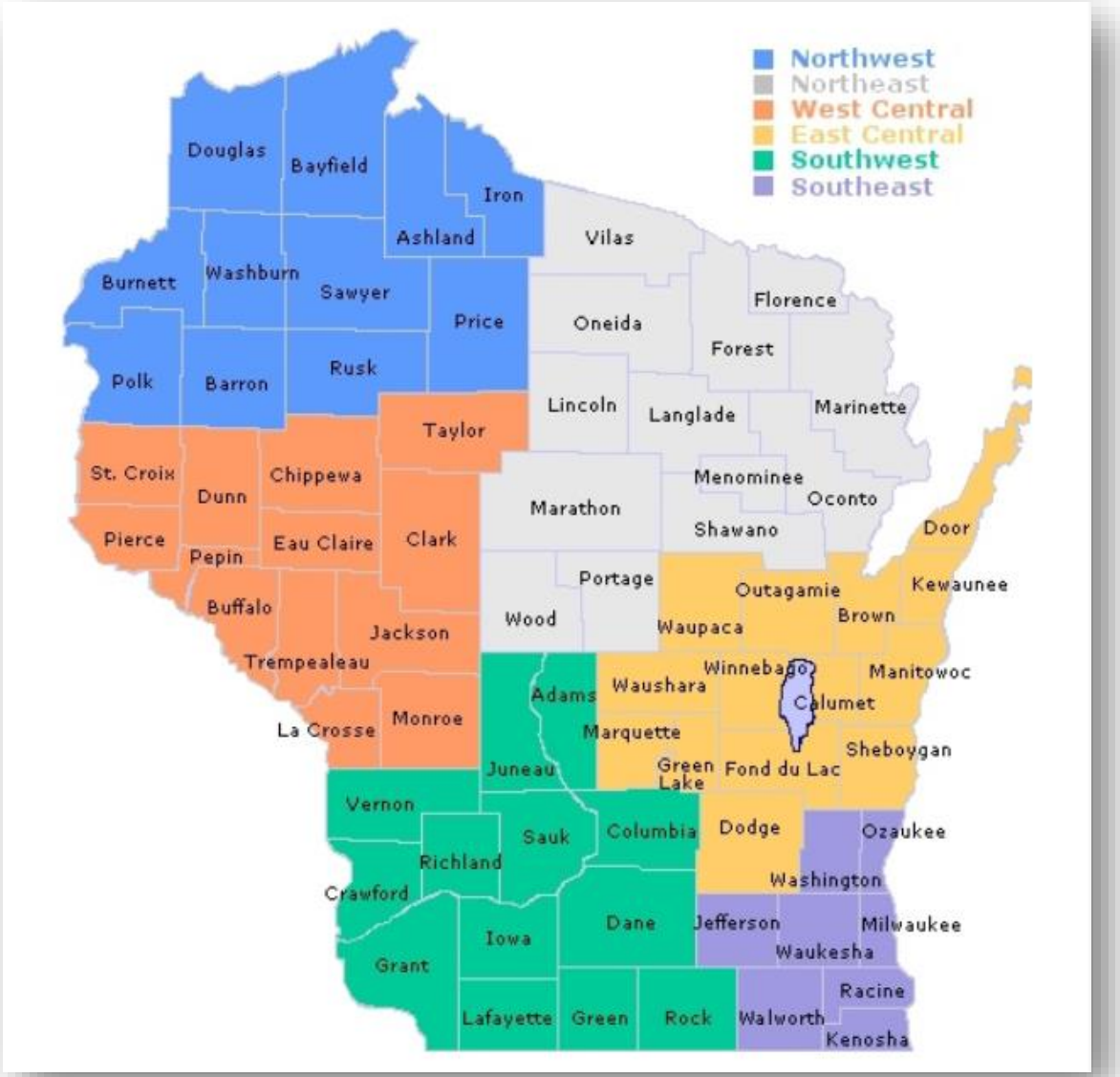


Lessons Learned

- OEI working with industry to gain a better understanding of volume of petroleum sold in WI to inform decision making
- Businesses and municipalities should review fuel contracts and establish additional contingent contracts or MOUs
- OEI has wired 3 terminals to accept a portable generator since Dark Sky Exercise
- Alternative fuels and conservation are helpful in a significant power outage scenario – explore options for increased utilization
- Investigate strategic public purpose microgrid installations that do not require petroleum products- SAFER2

SAFER2 Grant

- US DOE funded --SAFER2
- $300,000
- Starting in Feb. 2019
- Period of Performance is 3 years



SAFER2 Team

- Wisconsin Office of Energy Innovation (OEI) Staff
- WEM Planning Section Staff
- WEM Training and Exercise Staff
- Tribal and County EMs
- Wisconsin Clean Cities
- Focus on Energy (match)
- Commitment to participate
  - City of Beaver Dam
  - Dane County
  - Marathon County
  - Portage County
  - Oneida Nation
  - Wisconsin Energy Institute
  - Private Fuel Vendors
  - WPMCA
  - WPGA

Partnering with Wisconsin utilities

Wisconsin Office of Energy Innovation

Wisconsin Propane Gas Association

Project Milestones

Statewide Energy Planning Survey

“Deep Dive” analysis in select communities

Regional energy emergency workshops (Fall 2020)

Tribal, county, and municipal tabletop exercises

State executive level tabletop exercise

Share tools and products

Project Objectives

- Improve state and local response to energy emergencies
- Gain a better understanding of the resiliency of critical energy infrastructure around the state.
- Provide templates and best practices for energy emergency plans
- Enhance understanding of roles and responsibilities of both state and tribal/local partners
- Make recommendations for energy technology integration into mitigation plans including: energy efficiency, renewable energy, micro-grids, and solar+storage on critical facilities

Significant Survey Findings

- 62 Tribal or county emergency managers participated
- **58.1%** of respondents have no energy emergency response plans
- 14.5% of respondents have energy emergency response plans in development
- Of respondents with energy emergency response plans:
  - 31.7% have plans to ensure emergency personnel have access to fuel
  - Only 17.7% include key energy industry contacts in their plan
  - Only 9.8% include procedures for energy conservation measures
- 67.2% of respondents indicated they have fuel sites in their jurisdiction with backup generators or wired to accept them
- 46% of respondents indicated their tribe or county has no contract with fuel vendors
- 65% of those with contract fuel vendors have not discussed long-term power outage fueling with them
- 70% of respondents indicated they have no cache of portable generators

SAFER2 Regional Workshops (now virtual)

Participants

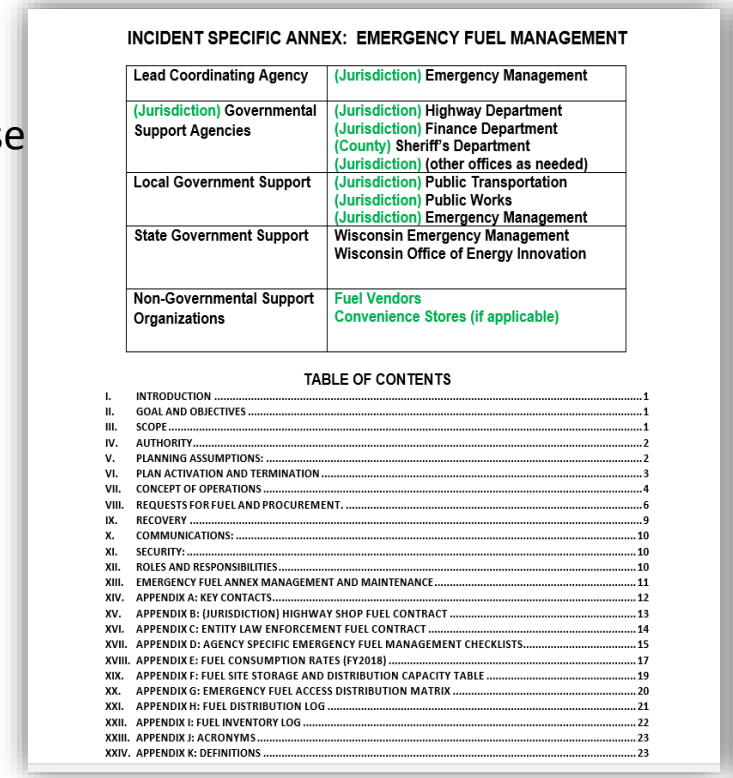
- Emergency managers
- Public works department managers
- Petroleum industry representatives
- Electric and natural gas utility emergency response planners
- Generator Manufacturers/Distributors
- Renewable energy companies

Dates:

- Southwest – 15 October-37 attendees
- West Central – 20 October- 25 attendees
- Northeast – 10 November- 34 attendees
- Northwest – 11 November- 31 attendees
- Southeast – 13 November- 68 attendees
- East Central – 3 November- 41 attendees

Tools and Templates

Emergency Fuel Management Annex Template



INCIDENT SPECIFIC ANNEX: EMERGENCY FUEL MANAGEMENT

Lead Coordinating Agency	(Jurisdiction) Emergency Management
(Jurisdiction) Governmental Support Agencies	(Jurisdiction) Highway Department (Jurisdiction) Finance Department (County) Sheriff's Department (Jurisdiction) (other offices as needed)
Local Government Support	(Jurisdiction) Public Transportation (Jurisdiction) Public Works (Jurisdiction) Emergency Management
State Government Support	Wisconsin Emergency Management Wisconsin Office of Energy Innovation
Non-Governmental Support Organizations	Fuel Vendors Convenience Stores (if applicable)

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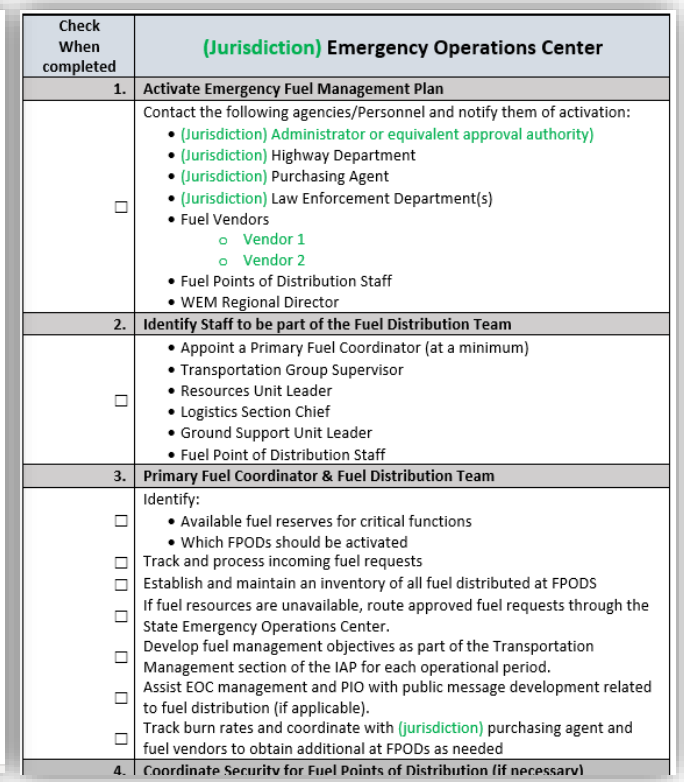
Energy Emergency Response Checklists



Check When completed	(Jurisdiction) Emergency Operations Center
1.	**Activate Emergency Fuel Management Plan**
☐	Contact the following agencies/Personnel and notify them of activation: • (Jurisdiction) Administrator or equivalent approval authority) • (Jurisdiction) Highway Department • (Jurisdiction) Purchasing Agent • (Jurisdiction) Law Enforcement Department(s) • Fuel Vendors o Vendor 1 o Vendor 2 • Fuel Points of Distribution Staff • WEM Regional Director
2.	**Identify Staff to be part of the Fuel Distribution Team**
☐	• Appoint a Primary Fuel Coordinator (at a minimum) • Transportation Group Supervisor • Resources Unit Leader • Logistics Section Chief • Ground Support Unit Leader • Fuel Point of Distribution Staff
3.	**Primary Fuel Coordinator & Fuel Distribution Team**
☐	Identify: • Available fuel reserves for critical functions • Which FPODs should be activated
☐	Track and process incoming fuel requests
☐	Establish and maintain an inventory of all fuel distributed at FPODS
☐	If fuel resources are unavailable, route approved fuel requests through the State Emergency Operations Center.
☐	Develop fuel management objectives as part of the Transportation Management section of the IAP for each operational period.
☐	Assist EOC management and PIO with public message development related to fuel distribution (if applicable).
☐	Track burn rates and coordinate with (jurisdiction) purchasing agent and fuel vendors to obtain additional at FPODs as needed
4.	**Coordinate Security for Fuel Points of Distribution (if necessary)**

SAFER2 Response from Workshops

- “I liked the collaboration among the small group. I also found value in looking at the issue of energy security from multiple angles.”
- “The pod system worked well. I like the questions that were presented and the discussion that were had.”
- “Great reminder of the importance of having this ESF updated in our county. Thank you for providing the template as well.”
- “Great discussion with the group and the use of exercise scenarios was great to drive discussion. Great mix of participants from both local, state, private sector, and federal.”

SAFER2 Current Activities

- Recruit Tribes and Communities to participate in “deep-dive analysis”
  - Deep-dive components are customized to participants’ needs and goals:
  - Wisconsin Clean Cities fleet assessment
  - Grant review- provided by OEI & WEM- listing of all available funding sources
  - Micro-grid feasibility study of critical infrastructure
  - Energy emergency plan review and recommendations for improvement

- Critical Infrastructure Microgrid and Community Resilience Center Pilot Grant Program (applications due 8/6)- funded using $985,000 of PY2020 SEP funds.

Strategic Objectives of Critical Infrastructure Microgrid Program

- **Energy Security:** Foster critical infrastructure security and resilience, improving the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions. Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents.
- Prioritize reliability and resilience benefits (during outages not caused by events beyond a utility's control) and benefits of avoiding major power outages (i.e. outages caused by major storms or other events beyond a utility's control).
- **Clean Energy Equity:** Help provide equitable access to the benefits of clean energy, efficiency, and preparedness by reaching broad applicant types. This includes applicants who may traditionally face barriers to adopting clean energy solutions and the benefits they provide, or whose communities may be disproportionately impacted by the negative effects of traditional fossil fuel and inefficient energy systems.